TRANSACTIONS OF THE AMERICAN DENTAL ASSOCIATION.

Serial
A
v. 3
1863
cop. 1

Columbia University
in the City of New York

School of Dental and Oral Surgery

LIBRARY OF
DR. CARL F. W. BÖDECKER
1846-1912
The gift of
Dr. Henry and Dr. Charles Bödecker
1929

Historical Collection

Digitized by the Internet Archive
in 2014

https://archive.org/details/transactionsofam3186amer

C. M. Bodecker

TRANSACTIONS

OF THE

American Dental Association,

HELD IN

PHILADELPHIA, JULY 28, 1863.

CINCINNATI:

WRIGHTSON & CO., PRINTERS, 167 WALNUT STREET.

1863.

Entered according to Act of Congress, in the year 1863, by the
AMERICAN DENTAL ASSOCIATION,
In the Clerk's Office of the Southern District of Ohio.

DISCLAIMER.

The American Dental Association, although formally accepting and publishing the report of the various standing committees, and essays read before the Association, holds itself wholly irresponsible for the opinions, theories, or criticisms therein contained, except when so decided by special resolution.—*Constitution.*

TRANSACTIONS

OF THE

AMERICAN DENTAL ASSOCIATION.

THE third regular annual meeting of the American Dental Association was held in the Assembly Rooms at Philadelphia, July 28th, 1863. The meeting was called to order at 12 o'clock M., by the President, Dr. George Watt.

The following permanent members were present, to-wit:—Drs. J. H. McQuillen, H. Benedict, W. H. Atkinson, B. M. Gildea, George Watt, J. F. Flagg, C. P. Fitch, George W. Ellis, S. Dillingham, W. H. Allen, C. Palmer, Geo. T. Barker, H. A. Smith, J. Taft, Wm. A. Pease.*

The Committee on Credentials being called upon, made the following report, to-wit:

Your committee would report as follows: We have examined the certificates and credentials of the following persons, and find them to be valid. We would therefore recommend that they be elected members of this Association:

S. DILLINGHAM, J. TAFT, } Com. of Arrangem'ts.

Michigan Dental Association.—Drs. P. S. Grimes, A. T. Metcalf, H. H. Jackson.

Pennsylvania Association of Dental Surgeons.—Drs. Chas. Moore, T. L. Buckingham, Geo. T. Barker. J. Hayhurst, C. A. Pierce.

Brooklyn Dental Association.—Drs. A. A. Wheeler, Wm. B. Hurd, Wm. C. Parks, A. W. Allen, A. C. Hawes, G. A. Mills, J. H. Smith.

Pennsylvania College of Dental Surgeons.—Dr. E. Wildman.

* Not present, but paid dues.

Pittsburg Dental Association, Western Penn.—Drs. Chas. Sill, J. Westby, J. B. Williams.

Odontographic Society of Pennsylvania.—Drs. William Gorgas, C. A. Kingsbury, John McCalla, Jacob Gilliams, Ambler Tees, W. K. Brenizer.

Society of Dental Surgeons of New York City.—Drs. C. E. Francis, Thomas Burgh, J. S. Latimer.*

Northern Ohio Dental Association.—Drs. J. C. Whinery, C. R. Butler, A. E. Lyman.

Cincinnati Dental Society.—Dr. S. Wardel.

Philadelphia Dental College.—Dr. Thomas Wardel.

Central New York Dental Association.—Drs. P. Harris, S. G. Martin, S. B. Palmer, E. M. Skinner.

Western Dental Society.—Dr. C. W. Spalding.

Mississippi Valley Dental Society.—Drs. J. G. Cameron, J. A. McClelland.

The report was accepted, and a vote being taken, all the persons whose names were submitted were elected to membership, who thereupon came forward, signed the Constitution and paid dues.

On motion,

Resolved, That the Association now take a recess of ten minutes, that the delegates may appoint their members of the nominating committee.

The following were presented as the members of that committee:

Western Dental Society—C. W. Spalding.

Michigan Dental Association—A. T. Metcalf.

Pennsylvania Association of Dental Surgeons—George T. Barker.

Cincinnati Dental Society—S. Wardel.

Mississippi Valley Dental Association—J. G. Cameron.

New York Society of Dental Surgeons—C. E. Francis.

---

* Not present, but paid dues.

Brooklyn Dental Association—Wm. B. Hurd.
Northern Ohio Dental Association—C. R. Butler.
Central New York Dental Association—S. G. Martin.
Odontographic Society of Pennsylvania—C. A. Kingsbury.
Philadelphia Dental College—Thomas Wardel.
Pittsburg Dental Association—C. Sill.

At this point quite a spirited discussion arose in regard to the eligibility of permanent members of this Association to a position of membership in the nominating committee.

The Chair stated that according to the Constitution, delegates only can be members of that committee.

The Nominating Committee was requested to report immediately upon the opening of the afternoon session.

Adjourned till 4 o'clock P. M.

AFTERNOON SESSION.

The Association met according to adjournment.

The Nominating Committee made the following report:

GENTLEMEN:—Your committee would report that the following nominations have been made, to-wit:

President—Drs. J. H. McQuillen, W. H. Allen, C. W. Spalding.
1*st Vice-President*—Drs. C. W. Spalding, J. H. McQuillen.
2*d Vice-President*—Drs. W. B. Hurd, C. A. Kingsbury.
Recording Secretary—Drs. J. Taft, Geo. W. Ellis.
Corresponding Secretary—Drs. C. R. Butler, W. H. Atkinson.
Treasurer—Drs. A. C. Hawes, H. Benedict.

All of which is respectfully submitted.

W. B. HURD, Ch'man of Com.

H. A. SMITH, Sec'y of Com.

Upon balloting, the following were elected the officers of the Association for the ensuing year:

Dr. W. H. Allen, of New York, *President.*
" J. H. McQuillen, of Philadelphia, 1*st Vice-President.*
" W. B. Hurd, of New York, 2*d Vice-President.*
" J. Taft, of Cincinnati, *Recording Secretary.*
" C. R. Butler, of Cleveland, *Corresponding Secretary.*
" A. C. Hawes, of New York, *Treasurer.*

The President appointed Drs. J. H. McQuillen and C. W. Spalding, to conduct the President elect to the Chair; upon taking which, he expressed to the Association thanks and appreciation for the honor conferred upon him.

The retiring President made some interesting remarks, speaking of his own professional career and the indications and promises of the profession.

On motion of Dr. C. E. Francis,

Resolved. That the thanks of the Association be tendered to the retiring officers, for the able manner in which they have discharged their respective duties.

The minutes of the last annual meeting were read.

The Committee on Publication was called upon, but asked further time, which was granted.

The Committee on Prize Essays was called upon, and stated that no Essays had been presented, so that they had no regular report to make.

The Committee on *Dental Physiology* was called upon, when Dr. W. H. Atkinson read an Essay upon that subject.

On motion.

Resolved, That the paper be accepted, and that its consideration be the order of business for to-morrow morning.

Resolved, That the Association now proceed to fix the time of meeting and adjournment of these sessions.

It was decided to meet at 9 o'clock A. M., and continue

till 2 P. M.; adjourn till 4 P. M., then meet and continue till 6 P. M.

Resolved, That an invitation be extended to the medical and dental professions of this city and vicinity, to attend the meetings of this Association.

Adjourned.

SECOND DAY.

The Association met, at 9 o'clock A. M. The minutes of the sessions of yesterday were read, amended and adopted.

The order of business now being the consideration of the Essay on *Dental Physiology*, that subject was taken up and discussed by Drs. Watt, Atkinson, McQuillen, Spalding, Flagg, Taft, Fitch, and others.

The Publication Committee appointed Dr. George W. Ellis reporter, to prepare a synopsis of the proceedings of these meetings for publication in the Journals.

On motion,

Resolved, That the report of the Committee on *Dental Physiology* be referred to the Committee on Publication, to be printed.

The following invitation was extended to the Association, to-wit:

To the American Dental Association,

GENTLEMEN:—The Academy of Natural Sciences of Philadelphia will be pleased to have you visit their collection, whenever it may be convenient to you.

I am, Gentlemen, your obed't serv't,

J. D. SEARGEANT, Sec'y *pro tem.*

July 28th, 1863.

A note was also read, from Prof. H. Morton of the Philadelphia Dental College, inviting the members of the Association to witness a series of Electrical experiments with the Rumkoff Coil, at 8 o'clock that evening, at the lecture room of that Institution.

The Association now adjourned, till 4 o'clock P. M.

AFTERNOON SESSION.

The Association met, according to adjournment. The minutes of the morning session were read and approved.

The Publication Committee made the following report, to-wit:

Your Committee would most respectfully report, that we have endeavored to carry out the instructions given at the last meeting. The proceedings of that meeting, together with the Essays then read, have been copyrighted and published.

Copies have been sent to all members entitled to them. Notice of the publication was given in the Journals.

The issue of the Transactions was delayed till a very late day, from the fact that at the last meeting no provision was made to defray the expense.

There have been printed two hundred copies, seventy-five of which have been bound (together with the Proceedings and Essays of the former meetings), which, in the opinion of the committee, would be sufficient to supply the demand. The remaining one hundred and twenty-five copies are on hand for future use.

Your Committee would suggest that the Association make provision for the publication of its Transactions; and that it be done as soon after the adjournment as possible.

J. TAFT, Ch'man of Com.

The Committee on Dental Chemistry was called upon, but did not report, from the fact that it had been impossible to prepare it.

Dr. Spalding offered the following:

Resolved, That the Publication Committee having reported one hundred and twenty-five copies of previous Transactions on hand, still unbound, the said Committee are directed to bind the said one hundred and twenty-five in the same manner with the same number of copies of the Transactions of this year; and that the price for these volumes shall be fixed at three dollars each.

Dr. Atkinson, as a member of the committee on *Dental*

Pathology and Surgery, read a report upon that subject. It was accepted, and its discussion deferred till to-morrow morning.

The Committee on Mechanical Dentistry was called upon, but made no report.

Dr. C. Palmer, of Warren, Ohio, presented some models illustrating the method of restoring the contour of the face.

The President requested any members who have models, etc., to bring them to the room to-morrow morning before the meeting.

The President then read a notice of invitation, requesting the presence of the members at an entertainment to be given at the Continental Hotel, on Thursday evening, by the Philadelphia brethren.

Dr. Spalding made some remarks illustrating the proper method of articulating artificial teeth. He suggested, that as a rule, a straight edge should come in contact with the cuspid, two bicuspids and first molar, when placed upon their buccal surfaces.

Dr. Flagg made some remarks upon the same subject, and also in reference to the teeth that are indicated by the different expressions and forms of the face.

Dr. A. C. Hawes presented the following:

Resolved, That the Publication Committee be instructed to give the Transactions of this meeting to such Magazine or Magazines as may be willing to publish them, with the understanding that the Association shall be entitled to ..... copies at the expense of paper and printing. *Lost.*

Adjourned, till 9 o'clock to-morrow morning.

THIRD DAY.

The Association met, pursuant to adjournment. The minutes were read and approved.

The consideration of the report on *Dental Pathology and Surgery* being now in order, the subject was discussed by Drs. McQuillen, Watt, Flagg, Fitch, and Taft.

On motion of Dr. Flagg,

Resolved, That the rules be suspended, to hear remarks from Dr. Garretson on the subject of this report.

Whereupon, Dr. Garretson made some very interesting remarks, which were heard with earnest attention.

On motion,

Resolved, That the report on *Dental Pathology and Surgery* be referred back to the writer, and that he be requested to append to it the suggestions and points which he has presented in his remarks in this discussion.

Dr. Kingsbury here read an invitation from Dr. Jansen of the Natatorium and Swimming School, requesting the members to visit that Institution.

On motion,

Resovled, That the order of business be suspended, for the purpose of selecting the place of the next meeting.

Several places were suggested: but upon taking a vote, Niagara Falls was chosen.

The Committee on Dental Education was called upon, but asked for further time which was granted.

The Association now took a recess of ten minutes; after which the Committee on Nominations made the following report:

Gentlemen of the Association:

The Committee on Nominations would respectfully submit the following named gentlemen for the several committees on which they are mentioned:

1st. *Committee of Arrangements.*—Drs. S. B. Palmer, P. Harris, and S. G. Martin.

2d. *Committee of Publication.*—Drs. J. Taft, W. A. Pease, C. W. Spalding, H. R. Smith, and H. A. Smith.

3d. *Committee on Prize Essays.*—Drs. S. Dillingham, G. T. Barker, G. W. Ellis, A. C. Hawes, and W. B. Hurd.

4th. *Committee on Dental Physiology.*—Drs. C. A. Kingsbury, J. H. McQuillen, and C. N. Pierce.

5th. *Committee on Dental Chemistry.*—Drs. George Watt, T. L. Buckingham, and H. A. Smith.

6th. *Committee on Dental Pathology and Surgery.*—Drs. W. H. Atkinson, J. F. Flagg, J. L. Suesserott, C. R. Butler, and C. P. Fitch.

7th. *Committee on Mechanical Dentistry.*—Drs. Thomas Wardel, J. G. Cameron, A. W. Allen, S. G. Martin, and E. M. Skinner.

8th. *Committee on Dental Education.*—Drs. J. H. McQuillen, J. Taft, and H. R. Smith.

9th. *Committee on Dental Literature.*—Drs. C. P. Fitch, W. H. Allen, and J. F. Johnson.

These nominations were confirmed by the Association.

The Committee on Dental Literature was called upon. Dr. J. H. McQuillen read the report of that Committee, which was accepted and placed in the hands of the Publishing Committee.

Adjourned.

AFTERNOON SESSION.

The Association met, at 4 o'clock, P. M. The minutes of the morning session were read and adopted.

The following communication was received from Dr. Wm. A. Pease, a member of the Committee on Physiology:

Gentlemen of the American Dental Association:

When the Committee on Dental Physiology was appointed, I supposed it would have for its object, to obtain new facts and observations on the Physiology of the mouth, that might be valuable to Dentists. Acting upon this supposition, I have been diligent in investigations, but they are not in such a condition as to warrant a satisfactory report at the present time.

I wrote to Dr. Atkinson, but he thought the time was then too short to correspond and make out from the observations

of the different members a homogeneous report. Under these circumstances, if the Society thinks it desirable to continue the committee another year, and the other members are favorable to it, I am willing to act; if another committee is appointed, and further observations shall establish the value of previous investigations, they can be given to the Society in the shape of a paper.

I think there are several difficulties in the way of making a joint report when members of committees are so widely separated. Respectfully submitted,

WM. A. PEASE.

On motion,

Resolved, That Dr. Pease be requested to continue his investigations, and embody them in a paper for this Association.

Dr. Pease also rendered a statement of his account as Treasurer of the Association, with a remittance of the amount in his hands.

On motion,

Resolved, That the Treasurer be instructed to procure a book, in which to keep an account of the finances of the Association.

On motion of Dr. Watt,

Resolved, That the instructions formerly given to the Publication Committee be so far modified as to authorize said Committee to sell the Transactions of the Association to any members of the profession, at the established rates; preference being given to members of local Societies, in case a scarcity of copies should occur.

The report on Dental Education was read by Dr. Geo. W. Ellis. It was accepted and referred to the Publication Committee.

Dr. J. F. Flagg read a paper on *Professional Education.* It was accepted and referred to the Publication Committee.

An Essay from Dr. J. S. Latimer, on Dental Education was read by Dr. C. P. Fitch. It was referred to the Publication Committee.

On motion of Dr. Butler,

Resolved, That this Association tender a vote of thanks to Prof. H. Morton of the Philadelphia Dental College, for the kind invitation extended to the members of this Body to witness some electrical experiments by a new apparatus, which was produced with a most beautiful and pleasing effect.

Adjourned, to 9 o'clock A. M. to-morrow.

FOURTH DAY.

The Association met, pursuant to adjournment. The minutes of the last session were read and approved.

Dr. H. A. Smith was called upon as Essayist, but asked to be excused, as it had been impossible for him to prepare a paper.

Dr. Ellis was called upon as Essayist, and read a paper on the extraction of teeth, which was referred to the Publication Committee.

Dr. W. H. Allen read a paper on Irregularity of the Teeth and its Treatment. This was also referred to the Publication Committee.

A paper from Dr. A. C. Hawes was read by Dr. J. F. Flagg. Introductory to which, he offered the following:

Resolved, That in our deliberate judgment, the frequent and indiscriminate extraction of teeth, for trifling, temporary and often wholly unnecessary causes, which has so long and so extensively prevailed, should not only be held perfectly inexcusable, but should be severely censured; and that an intelligent and patient remedial treatment for their restoration from disease, and permanent preservation, should be the first and highest aim and effort of our profession; and should also be most earnestly explained and recommended to the public. *And further*, That in our belief the progress of Dentistry at the present day has revealed resources, varied and ample enough when timely used, for the preservation of almost every tooth, so that its decay and extraction shall only be simultaneous with that of the human frame itself.

The paper was referred to the Committee on Publication.

Dr. Atkinson read a paper on *Institutes of Dental Science* which was referred to the Publication Committee.

The report of the Committee on Dental Societies was read by Dr. Taft. It was referred back to the writer for some additions, and then to pass to the hands of the Publication Committee.

On motion,

Resolved, That this report be published in all the Journals that will publish it, that it may be distributed as widely as possible.

On motion of Dr. McQuillan,

Resolved, That a Committee of five be appointed by this Association, to confer with Surgeon General Hammond, relative to the appointment of Dentists to the military hospitals of the United States; and also to secure, if possible, prompt and successful action on the part of Congress, by having petitions prepared and signed, and sent to that Body, from all parts of the country, in favor of the measure.

The Committee consists of Drs. J. H. McQuillen, C. W. Spalding,, J. Taft, C. P. Fitch, and H. N. Wadsworth.

On motion of Dr. Watt,

Resolved, That the special Committee in regard to the appointment of Dentists in the military hospitals be authorized, if they find it expedient and practicable, to obtain for the profession, like privileges throughout the army and navy.

On motion of Dr. Kingsbury,

Resolved, That such part of the proceedings of this Association as relate to the appointment of Dental Surgeons in the army and navy be published in the Dental Journals.

Dr. Watt gave the following notice, to-wit:

It will be proposed, at the next annual meeting, to amend Article V, Section 1, of the Constitution,—by striking out the words "one from each delegation," and inserting in their place, "nine members, appointed by the Association." Also, in the same section, it will be proposed to strike out the word "plurality," and insert the word "majority."

The Constitution was amended as proposed by Dr. Stone, last year, which was as follows: In Article III, Section 5, drop all the section after the word "members," at the last of the first line at the top of page 13.

The following by Dr. Kingsbury:

Resolved, That we testify, from personal experiment, that we highly appreciate the cleansing, invigorating and harmonizing influence of going through the role of action, at the Natatoreum, kindly afforded this Body by Dr. Jansen, the proprietor.

Dr. C. Palmer, by request, read a paper and made some remarks, describing instruments of his own manufacture for extirpating nerves of teeth and preparing the canals for filling, the method of making and using them. They were examined and much approved by the members of the Association.

Dr. C. R. Butler also made some remarks, describing his method of making and tempering fine instruments.

On motion,

Resolved, That the Publication committee be requested to issue the volume of Transactions for 1863 as early as the first of October next.

Resolved, That the balance of the funds in the treasury, after defraying the contingent expenses of this meeting, together with the sixty-two dollars raised by the members, be placed in the hands of the Publication committee to defray the expense of publishing the Transactions of this meeting.

Adjourned to 4 o'clock P. M.

AFTERNOON SESSION.

The Association met, according to adjournment.

Dr. J. H. McClelland exhibited a method of constructing artificial dentures, in which rubber and gold wire gauze are beautifully combined. He claims for it, that less bulk or thickness, and greater strength are obtained, than by the rubber alone.

There were also dentures exhibited, having a flexible rubber chamber, by which, it is claimed, the adhesion is greatly increased. This is the invention of Dr. J. A. Bidwell, of Cleveland, O.

The following proceeding was had, rather independent of the Philadelphia brethren:

A meeting of the members of the American Dental Association residing abroad was held in the Continental Hotel, on Friday, July 31st, 1863, at 3 o'clock P. M. The meeting was called to order by C. W. Spalding of St. Louis, who stated the object of the meeting; when, on motion, Dr. W. H. Allen of New York was called to the Chair, and C. W. Spalding was appointed Secretary.

The following resolution was then offered, and unanimously passed.

Resolved, That the members of the American Dental Association not resident at the city of Philadelphia, take pleasure in returning their most sincere thanks to their Philadelphia brethren, for the cordial reception which they have received at their hands, and for the hospitable manner in which they have been entertained during their stay in this city.

On motion, adjourned.

W. H. ALLEN, Ch'man.

C. W. SPALDING, Sec'y.

Two bills were presented for payment,—one for rent of the room for the use of the Association, to the amount of $20.00; and one for advertising, to the amount of $4.00,—both of which were ordered to be paid.

Drs. Benedict and Flagg were appointed a committee to audit the Treasurer's account.

On motion,

Resolved, That Drs. Atkinson and Taft be continued on the committee on Local Societies.

The Auditing committee reported,—that upon examination, there is in the hands of the Treasurer $19.75, after the payment of all present expenses.

On motion,

Resolved, That a vote of thanks be tendered the Academy of Natural Sciences, for the invitation extended to the Association to visit and examine their extensive collection.

On motion of Dr. Atkinson,

Resolved, That the committee of Arrangements be relieved of the duty of selecting subjects for discussion.

On motion,

Resolved, That the funds of the Association now in the treasury be placed in the hands of the Secretary, for the use of the Publication committee.

The President remarked: That as the Association is now about to close its session, it gave him pleasure to express his pride and satisfaction at the manner in which the work devolving upon this Body had been performed; and that he hoped in the future still greater results would be accomplished; and that he should look forward with happy anticipations, to a general reunion at Niagara Falls.

The Association now adjourned, to meet at Niagara Falls on the last Tuesday of July, 1864.

J. TAFT, *Secretary.*

ESSAYS.

DENTAL PATHOLOGY AND SURGERY.

By W. H. Atkinson, D. D. S.

A report upon the relations between pathological states of teeth and the surgery consequent thereupon necessary to the restoration of the teeth and surrounding or remotely-connected tissues, is indeed a large and important field of research, and involves extended knowledge of the normal processes of development and nutrition of these important bodies.

The most complete elucidation of all the known relations of any specialty to the whole living system, even up to the latest discoveries in each, can only enunciate a part of the truth, if we attempt to educe the pathology of individual organs, by observing and recording their behavior under aberrations from normal nutritient functions.

But if we posit ourselves at the center and make our observations and surveys to cover all the possibles in function, we will accomplish more in a short time than the whole race have been able to effect upon the analytical and aggregative plan heretofore pursued. This will deliver us from blind adherence to authority, and enable us to comprehend cases so as to have our own perception the best authority.

This position can only be attained by elaborate study and comparison of the affinities displaying themselves in physiological conditions, any departure from which will constitute pathological action in the degree of divergence.

It is evident, therefore, that no absolute health is attainable with any one individual, so long as any other is in aberrant condition, until absolute isolation from all else is secured to it, which in the nature of organic law presiding over individual bodies is an impossibility.

The lines of demarkation between genera, species and varieties, so undulate and intertwine among each other, that it becomes a matter of doubt where to place a newly discovered body. So also do the interblendings of physiology and pathology force the necessity upon us of making our comparisons between distant states and then calculate the probabilities of similitude to the well-marked physiological or pathological manifestation upon which we found an opinion short of absolute certainty of knowing.

Our very powers of observation may be so warped from the normal standard, as to induce us to see what to our apprehension is pure health in cases of very considerable departure from a standard above our condition to perceive. Thus convalescents are wont to think themselves well and able to dismiss their medical attendant and nurses, long before the erudite physician or nurse could conscientiously dismiss them from the list of diseased persons or people in pathological condition.

If it be objected that this is not sound doctrine, and that the patient was actually well when he felt himself so, all I have to do to prove the contrary is to cite the multiplicity of examples of relapse of the same modification of disease, occurring under the precise class of circumstances cited. For, had he have really been cured and as he averred well, in case he fell sick another disease would manifest itself, and not the identical one from which he had been suffering, and from which he was recovering.

Abscesses especially are liable to such mutations in systems poorly endowed with life-presence at the first, or those which were once well-organized, having been poorly nourished or over-wrought or under-rested.

"He who sleeps, dines," is worthy of our earnest attention and respect, when examining or treating debilitated and diseased organs or persons.

Pathology of the teeth naturally divides into the aberrations from the healthy, nutritive and functional stan-

dard, in Pulp, Cement, Dentine, Secondary-Dentine, and Enamel.

The functional activity is simple or complicated in the ratio of approximation to enamel or pulp-tissues, and hence easily or difficultly apprehended, understood or taught.

If we deny life and organization to enamel, we put it beyond the pale of physiology; and doing this, exclude it from the range of pathological actions.

The same may be said of the other three hard tissues composing the teeth. Those who have deemed and defined the teeth to be "inorganic bodies," have not denied vitality and organization to the pulps. But to be consistent, they should.

To our subject, then. What is the simplest form of pathological manifestation in the enamel? Answer: Separation of its columns, or simple crack, check or division; in a word, mechanical separation in its parts, whether it be in the sense of a single prismatic column, the constituent cells of these, or the unseen molecules of which the cells themselves are but aggregations as the whole is of these same bodies.

When we shall have comprehended just what mechanical separation of the molecules is, we will be in a suitable state to understand the next step in the disintegration of tissues which is termed chemical.

Chemical change always involves the idea of solution which brings us to the very verge of, if not entirely outside of actions, properly denominated pathological.

But as it is necessary to a clear understanding of our subject, I will state that all solution is but molecular disorganization. And this always takes place serially; that is, the molecule or molecules in contact with the solvent must first give up their unseen organizing presence or type and be taken away so as to bring the solvent in direct contact with the next molecule or stratum of peripheral molecules. A repetition of this same process will go on just so long as there is greater affinity for the constituents of the molecules than there is among themselves for each other, or till every

molecule of the body holding such relation to the solvent agents in contact therewith is dispersed in accordance with the law of dominance of the affinities here suggested.

It is easy of apprehension that this can be no less than death to the molecule or molecules involved. This is the reason why I said that it carried us to the verge or outside of pathological states of molecules. But there is a state short of complete solution of a molecule or a body which may be invoked as the true type of the state properly called pathological,—a state of semi-solution and resolidification on a lower scale of life or organizing presence, which prevents actual death of the molecule, tissue, organ or body,—a state of debility which resists disintegration, but is too feeble to perform any higher function than a sort of subdued nutrition.

This is disease—or a true pathology—and is displayed in all secondary tissues, such as cicatrices and reproductions of cellular and osseous structures. So that we can not call these healthy or physiological only as we range them in relation with structures normally endowed with a like degree of life-force, organizing presence or power.

This opens our minds to perceive that physiology and pathology are convertible terms in the ascents and descents of functional activities.

The higher we go in the scale of organic relation, the more do we complicate and multiply the modification of the nutrient acts and the mutual interblendings of these actions, and render them difficult of discernment and management to prevent disintegrations or to institute reproductions and substitutions.

Reproductions belong to and depend upon the nutrition of the structures involved, and are properly the display of pathological activity in them. Substitutions are the work of surgery, and will be complete or incomplete as the materials are well-chosen and the manipulations skillfully performed, or carelessly selected and bunglingly executed.

The pathology of secondary dentine is of so little practical

importance, that we may well be justified in passing it without further explanations. But primary dentine has a too well-marked and important pathology, to permit us to fail to do what we may to throw light thereupon.

There is no pathology other than that arising from imperfect development demanding our attention, which does not depend upon destruction of the enamel and a consequent sickening of the molecules of dentine; and therefore can not occur when the enamel is entire.

Dentinal-like enamel-molecules may be recuperated when sick by supply in excess of the lime-salts, to calcify them on their exposed surfaces by neutralizing the disintegrative solution interfering with their proper nutrition; after this is effected, the denuded surfaces should be finely polished if superficial, and hermetically paved (if deep-seated) with an indestructible substitute, effectually excluding the subsequent ingress of the destructive agency.

Pathological conditions of cement are recognized under the titles of periostitis and exostosis; and are amenable to the knife and vulnerary treatment.

Pulps have a pathology common to the soft tissues in general, and are like them in local behavior with the differences arising from the confined condition in which they are enclosed. This secluded condition obscures diagnosis and interferes with freedom of the circulation, and thus circumscribes their chances for life under the influences of the inflammatory process.

The proper surgery applicable to pulps, is depletion; this may be constitutionally effected, or locally performed. The former, by antiphlogistic measures being carried to the extreme; the latter, by simple puncture, extirpation or astringent applications when demanded, or when constitutional remedies do not subdue the disease (pain), where they are not denuded, this should be skillfully effected to facilitate directness of remedial treatment.

All aberration from the normal standard, then, is the

result of admitting incongruous elements into the organism.

The proper pabulum for enamel would be a poison to the pulp, as certainly as that the richest blood circulating within and recuperating pulps could not find ingress, without separation of its constituents and modifications of condition, into the enamel-rods so as to afford them any nourishment.

The difference, then, between food and poison, is exactly like the diversity between physiology and pathology,—very occult at the points of mergence and inception, but well-marked and disastrous when far apart and long continued.

What has surgery, then, to do with these untoward conditions? Answer: Simply remove or change them for benign states of the diseased organ or system! And how may this be done? Answer: By traumatic and antidotal means.

Everybody thinks he knows what excision means; and most people think they pretty well apprehend what is meant by antidoting or destroying disease. But if any really knew all about either, we should be more tolerant of each other, and humbly acknowledge that "those things" (practices and remedies) "which seem to be useless" and dishonorable "are the more necessary" and indispensible, because of an unseen and unappreciated latent potency resident in or connected with them. Thus the "touch" or the "word" of some one in whom the diseased person "believes," is more potent for his recovery than all the most renowned and reputedly active remedies in such cases, when administered by him who is in personal presence incompatible to him, or in whom the patient does not "believe."

Instance Ricord's marvelous success with the selfsame commonplace remedies which exert so little influence to heal in the hands of the many.

To fully understand this difference of result in the hands of compatible and incompatible administrators, would not comport with the length of, if it eminently did with the purpose of this paper. So we can only glance at the law of in-

terchange of entities under the law of impartation, hoping suggestively to set some mind at work in the direction of a legitimate pathology and surgery.

There is such a thing as having instruments and medicines *obey* the behest of the will of him who handles or administers them, and unhappily there is also such a thing as failure to do this to any considerable degree as well as absolutely to cut the wrong tissue or in the wrong place, and to not only disobey but to set up an action coincident with and aggregative of the disease intended to be antidoted; any of which will not be fully understood, until we are more conversant with molecular affinities, systemic attractions and personal compatibilities and incongruities. When all these shall have been aggregated within the receptacles of our knowledges, we shall be able to understand why one person shall pass the ordeals of infection and contagion, repelling their specific influences, while another so readily responds to the deranging germinal influence of disease.

Then we shall have exchanged the inconsistencies of hypothesis for reliable theories, which underlie and point out the minutest facts of detail in every possible modification of the pathological states of molecules, organs, systems and minds.

Who among us, of twenty years' experience, has not seen fangs of teeth with living fragments of pulp in the part above the wooden pivots upon which artificial crowns were doing good service? or who among us could not verify the capability of pulps being partially devitalized with arsenic and still maintain a vigorous vitality in the canals of fangs of teeth whose bulbs were converted into an arsenicate, and yet kindly remaining a good non-conducting filling against which various qualities of gold and other fillings had been inserted for various lengths of time, if he would only take the pains to examine cases so situated? And yet, who would advocate such a course as generally commendable? I have seen a central incisor and lateral of the same side treated to obtund sensitive dentine, both excavated down to and well-

filled against their pulps,—the former producing alveolar abscess, the latter doing well with a dead pulp in the chamber, and that in the canal proper above the chamber circulating its fluids normally and performing its nervous function as well as ever.

This I learned by an attempt to remove the (as I supposed) dead pulp whole, which parted at the junction of crown and fang, and was dressed with a pledget of cotton wet with creosote and filled over with gold! At an interval of a month I removed the gold and found the pulp alive and doing well; re-applied the pledget, and refilled and dismissed the case with the confident expectation that it is a success.

The lines of demarkation between physiological and pathological actions are not well understood among us, or our theories would always concur with facts in practice, and we should be more inclined to lend a listening ear to the accounts rendered of the experience of our fellows, whereby alone we are enabled to differentiate regular from irregular and incidental actions of organs in health and disease.

Local lesion can only result from focalization of idiopathic cause, and traumatic violence. These states, like all else pertaining to organic actions, merge so imperceptibly into each other, that it seems like blowing hot and cold at the same breath to strictly define and set forth the one against the other.

There is the wound (trauma) of chemical affinities, and there is the wound of bare mechanical violence, which are identical in one respect and yet most opposite in another. The unseen affinity producing chemical change in the relationships of the molecules where it occurs, and the purely mechanical inducing the unseen agencies to set up separate actions in the molecules dissevered.

Now, if the blood-plasm from which both actions derive their potency to repair or to destroy be in the state denominated healthy, repair is the immediate consequence of the act; but if the state called disease holds dominion in this

plasm, we as confidently may look for disastrous results to the locality, if not to the entire system, by propagation of the aberrant force.

The extent of this degeneracy of the blood-plasm, in degree of virulence as well as geographical bounds of the vascular system involved, must be known and taken into the calculation, before a clear diagnosis, upon which our prognosis depends, can be made.

Take the example of arsenical application. If this be brought in contact with albuminous fluids, it may act indefinitely by alternate combination, solidification and re-solution; but if abundance of fibrine be present, combination and a more complete solidification,—because equality of affinity is found in this plastic substance which limits the tendency or rather ability of the arsenic to further combine with the liquor sanguinis. And the new compound is in a sense simply encysted and tolerated in the tissues.

Thus explaining the diverse accounts of experiences under *apparently* like conditions, by simply studying the laws of molecular affinities. As is well known, men of like experience and erudition have given opposite reports, that, when understood, prove to be the same.

One class of the advocates of devitalization by arsenical preparations, are strenuous in making the smallest possible quantities impinge upon the denuded pulp. And they are, to a man, advocates of leaving it in for eight, sixteen or more days. And, furthermore, they all report more or less periostitis or the necessity of renewing the application in increased quantity.

Another class are heroic in their treatment, in quantity used and rapidity with which they extirpate pulps. And they say they seldom have periostitis as a sequence.

But so far as the record shows, these last are not so accurate in their observations, nor so erudite in their philosophy, and consequently are not as good witnesses as the former.

But in this matter we can not abnegate the timid, cautious

practice of the one, nor the bold and seeming reckless procedure of the other, if we would deduce the legitimate practice from the witnesses on the stand. Let us, then, marry the one to the other, and see if the progeny will not be an improved stock upon which we may rely without fears of failure to acomplish our purpose on the one hand, or effect destruction beyond our desire and purpose on the other.

Let us, then, apply any quantity not exceeding the one-sixth of a grain of arsenious acid directly upon the punctured pulp, and extirpate and fill at any time that it may be convenient for the patient and ourselves *within one week.* I need not say that this should be delicately done in every part of the operation, from the exposing of the pulp, applying the arsenic in the exact position, and hermetically sealing up the cavity *without pressure* upon the pulp; to the complete extirpation of every particle of soft substance, and absolute obliteration of the canal and cavity in the crown of the tooth!

A subject of immense importance to the oral surgeon and patient remains to be noticed, and I close this epigramatic report on "Pathology and Surgery."

I refer to the method of arresting disease in the bones, and inducing reproductions of the lost portions of cranial bones and maxillary bones, in part or in whole,—announced to the last sitting of this Body at Cleveland.

Dentists, medical men, and surgeons have denounced it as worthy the pains and penalties of mal-practice! denominating it bold, reckless, and inhuman; by which means, and adverse influences brought to bear, its announcement was delayed, until my natural timidity and respect for reigning authority gave way to convictions of truth and the testimony of cases of complete recovery in less than a third of the time, and a moiety of the suffering that patients heretofore had to pass to attain cures but little preferable, if at all, to be chosen before death!

Since my advent into a larger field, cases have multiplied in number and variety, affording greater scope to prove the

efficiency or inefficacy of the practices pursued in every variety and degree of extent of death of bones, clinically taught to, and conversationally investigated before a large number of the first minds in our Body in this city; and also set forth in identical doctrine by articles in the *Dental Cosmos* on the subject of "Alveolar Abscess," which always results from the death of more or less bone.

I can boldly assert that the proofs are now numerous and irrefragible, both in my own practice and that of my pupils: the first case of failure to effect a satisfactory cure having yet to present itself,—so far as I am informed outside, or have observed in, the field of my own practice.

A full detail of cases would be too voluminous and tedious to be indulged in at present, and therefore if any desire any points made more clear, I prefer to reply orally to direct questions as is my custom before the class.

PROFESSIONAL EDUCATION.

By J. Foster Flagg, D. D. S.

The subject of professional education is one which is considered in some manner, as of greater or less importance by every practitioner who has enjoyed, even to a limited extent, the advantages which accrue from it; and it has therefore been regarded by me as possessing a general interest which would warrant the suggestion of some reflections that tend to note the *effect* of what is termed "instruction" upon the different classes of individuals who are the recipients of its favors, and the various grades of professional men that are eliminated as the ultimate results of the system.

Education acts upon congregations gathered from all parts of the world, from all ranks in social life, from all varieties of early advantages and disadvantages, and serves in furtherance of countless motives which actuate the seekers after much or little knowledge. It grades its votaries just in pro-

portion to the incentive of each, be that the insatiable thirst after truths, with the highest power of appreciation in investigation and application, or the more moderate, but still praiseworthy desire of obtaining a reputable position among one's fellows; or again, the too frequent proof of inferiority which aims at nothing higher than the accumulation of that amount of literary "stock in trade" which will enable its possessor to gain a livelihood at the expense of heaping obloquy upon a calling which had nobly offered him the opportunity of serving God by benefiting his fellow men.

With these views admitted, it is by no means strange that such marked differences should exist, as obtain among practitioners of any profession or specialty connected therewith; and it is in this latter phase that I propose rendering this article relevant to dentistry.

Permit me then to suggest that we have as the type of *one* class of "legitimate" practitioners, the man who without any effort in the direction of study or preparation, having ignorantly blundered for five or eight long years, suddenly becomes awakened to the importance of obtaining a regular education; and, upon inquiry, finding that his period of malpractice has half educated him, resolves to give four months, and finish!

With this end in view he attends lectures, occupies one of the rear benches, picks up assiduously everything which is within his limited comprehension, wonders what the great mass of matter talked about has to do with plugging teeth or preparing mouths for "jobs!" and, at the close of the session stands examination and, strange to say, passes a sufficient number of the should-be guardians of the welfare and honor of their specialty, to warrant the bestowal of the title of "Doctor" and becomes thereby "a learned man; a man skilled in a profession; a man of erudition!"

He must necessarily practice upon very much the same basis, scientifically, that he did before; in common with all who are very superficially educated, he is naturally of the

opinion that his attainments are of quite a high order; he does what he can for cases which present, and imagines that no one could do more; if relief is obtained *in defiance* of his efforts, he regards the result with complacency; and if increased suffering and finally serious consequences *accrue from his course of treatment*, he consoles himself with the reflection, that all disease has not become amenable to remedial agencies even in this enlightened age,—he occupies the unenviable position of the lowest grade of professional man; and so gently merges the ignoramus into the possessor of a diploma, that the community are completely unable to discern any *practical* dividing-line between presumption and competency.

A *second* class may be composed of those bringing the study, reflection and practical experience of several years to aid them in properly appreciating the advantages of a systematic course of instruction, or those who by early attention and proper direction are endeavoring to acquire a knowledge of what they desire to practice, but who from a deficiency of capability are unable to clearly understand the nice distinctions through the medium of which an appreciation of the higher truths of scientific investigation is acquired. These are the men who diagnose plain cases with facility, and who supply the received therapeutical indications, obtaining generally happy results, but who do all this without any decided ideas as to *why* they suppose the existence of this or that diseased condition, or *why* having supposed it, they effect a restoration to an apparently normal state by this or that course of treatment. They are satisfied with their daily experiences, become quite natural "routinists," and with the passing years obtain, not unfrequently, large and lucrative practices, with which they glide through life, easily, gracefully and even benignantly, shedding around them smiles which alone are eminently curative, and speaking soft words which tend to assuage the sufferings of many a poor unfortunate.

I would offer as a *third* division, the results arising from educating men whose brain-capacity is such as to enable them to appreciate nice distinctions *which are pointed out to them;* to philosophize upon positions *which have been obtained;* to recognize as probably truthful, or reject as probably fallacious, instructions which have been imparted to them during the course of teachings, and to have presented to their own comprehensions by their own reasoning powers, arguments which are all-sufficient to induce *them* to make such practical applications as shall secure from their fellow practitioners a high degree of respect for their ability, and from the community in the midst of which they prosecute the profession to which they are devoted, command that confidence which makes them *a reliance* in the dark hour of tribulation, despite taciturnity and perhaps even more than want of suavity. These are they who are summoned to the rescue when sweet smiles, soft words and simple prescriptions fail. They are the men who, without the *prestige* of professional position, are ranked as "eminent" upon a solid foundation. They are those who occasionally translate or edit the works of greater men, disseminating their views, extending their sphere of utility and proving their own fitness for the position in which they have placed themselves, by terse and appropriate commentary and "notes" of incalculable value. Their names and faces become familiar in the cities where they reside, and when their duties in this life have been performed and they have been called, we will trust, to a "brighter and better world," short biographies setting forth their peculiarities and usefulness are added to the so-called "annals" of the past.

I would consider as a *fourth* classification, those who possess, in addition to the capacity of appreciation and application just referred to, the *ability of so imparting* the knowledge, or more strictly the belief which they possess, as to render that which seems plain to them, plain to others. They are the mouth-pieces of progression. Each has his own

method of systematizing the various truths which are promulgated, and theories which are advanced—his own manner of presenting facts and speculations; but those who, together with the advantages of a liberal education, combine a pleasing voice, persuasive manners, fluency and elegance of diction, and a masterly comprehension of their subject, have a great responsibility resting upon them: they have been vouchsafed many "talents" and should ensure their return with interest, by using them cautiously, earnestly, sincerely and zealously.

Those who feebly and hesitatingly enunciate what they desire to advance; those who attempt to conceal superficiality by the assumption of importance and the exhibition of assurance; those who do violence to the educated ear, either by the construction of their sentences or the pronunciation of their words, are by no means typical or components of the grade which I now present to you,—they are soon judged by their hearers,—out of their own mouths are they condemned; they fail to impress as they most certainly would desire,—they fail in obtaining that recognition from the fraternity which *merit* commands; and but a short race is run, ere their true position is assigned them,—first by the silent withdrawal of professional endorsement, and finally by the out-spoken comments of the press of their specialty.

Those who ably and unfalteringly loose that which they have garnered; those who spread forth freely from a fair stock of knowledge; those who give without sparing, from their stores of experience; those who stamp their instruction with the impress of kindness, clearness, usefulness, and practicality, are the men I regard as the types of this grade. The preparation for this position is an arduous task, even to those designed by nature to fill it. Study must be the occupation of a lifetime, cessation in this direction involves immediate loss of relative position, and its maintenance is only secured at the price of uninterrupted labor. Maturity, too, is an indispensable qualification; for that attribute to which

we apply the term "judgment" is of vast importance in this connection. The young mind is easily molded,—the impressions which are engraven upon it are difficult to erase, so that it has passed into a saying that "it is easier to learn than to unlearn." How carefully sifted, then, should teachings be, and how highly should be estimated that ability which secures to its possessor the reputation of being a successful teacher, after having earned the decision as the result of many years of probation and toil.

As I approach the highest type of professional man, which I propose as a *fifth* embodiment, I naturally hesitate when I reflect upon an attempt to portray such characteristics as form the "master minds" of ages; the minds which conceive of nice distinctions; the brains which by observation create positions. Who of us can even imagine the workings of a Galileo brain, as the conviction steadily settled upon it that the earth revolved around the sun? Who of us can follow the heaving thought-track which was explored by Harvey in the elimination of the truths of circulation? or the enthusiastic culmination which enabled our own Horace Wells to give the solution of the great problem of anæsthesia in the *honest* substance of sulphuric ether?

But it is not alone the possessors of organisms that bequeath to the world such startling sunderings of all preconceived opinions as those I have instanced, who should be classed as master workmen; for, there are delvers of wonderful power, who while perhaps eclipsed for the moment by meteoric flashings, still with planet-like brilliancy maintain their pre-eminence in the professional firmament,—men who make rapid strides in the development of their specialties, like Pare, Bichat, Liebig, Vierchow, Rokytansky, Nasmyth, Owens, Tomes, and others of like fair fame.

The study of the lives of some, and the works of all of these, would form a far better eulogium than any I could give, upon qualities which in the aggregate make the finished result only to be obtained as the combined handiwork of

nature and art. Suffice it for me to say, that these are the fountains from which flow the supply of knowledge which it behooves the fourth class to use intelligently, that the third class may properly appreciate it, that the second class may secure a comfortable competency for themselves and their families, and that the first class may be a shame!

IRREGULARITIES OF THE TEETH,

And the means to be employed in directing the process of dentition, in order to insure a regular and well-developed set.

By Wm. H. Allen.

Mr. President and Gentlemen:

The importance of a knowledge of the time of, and the signs which precede, the eruption of the first set of teeth, can not be too highly estimated; and if paternal solicitude is manifested on account of the health of the child during the process of "teething," the same anxiety will exist during the shedding of those teeth, and their replacement by the permanent set, lest irregularity and deformity result therefrom.

So much does a beautiful and regular arrangement of the teeth contribute to the pleasing expression of the human countenance, the correct enunciation of language, and the due and proper mastication of the food, that it becomes an object of the first attention to the dentist who has the care of a "family of mouths," to know when irregularity is to be apprehended, and the best means to be made use of to prevent it.

By proper attention and examination of the teeth and jaws, at about the age of seven years, a very correct prognosis with regard to the second set may be formed.

If the child is of a good constitution, and has had no severe disease during the first five or six months of its life; if the jaws are well developed in a circular form, the palate offers a flattened and regular concavity, the lower jaw does

not project beyond the upper, and if the temporary teeth are rather large, free from caries, regularly developed, and have spaces between them, the prognosis may be favorable, and there will be but little danger of irregularity.

But, if, on the other hand, the constitution be feeble and the child has been sickly, if the jaws are contracted laterally into an elliptical form; the palate bones form a high vault like a Gothic arch; if the chin be prominent or there be any hereditary tendency to a protrusion forward of the lower jaw; if the temporary teeth are much decayed, and above all, if any of the temporary molars have been extracted, there will be great danger that the second set if left to nature alone, will be crowded and irregular.

Every dentist should make a regular and thorough examination of the teeth and jaws of the children under his charge, soon after the first permanent molar has made its appearance through the gum, (which, it will be recollected, is before any of the incisors have been shed, or between the ages of six and seven,) and if any of the unfavorable signs are exhibited which I have just alluded to, he should apprise the parents of the danger to be apprehended, and the importance of early and constant attention, until the whole process of exchanging the teeth has been completed.

In almost all cases where the favorable indications exist, which have just been pointed out, there will be but little for the dentist to do during the shedding of the temporary teeth and their replacement by a permanent set.

They should be thoroughly examined and watched for imperfections or congenital fissures in the enamel, and these if found, be well filled before caries has had time to proceed far; beyond this, perhaps they will need nothing but cleanliness on the part of the patient; and upon this point we can not dwell too much, it is a vital point, and one upon which we should ring all the changes.

The fangs of the first set of teeth will generally be absorbed in regular order as the crowns of the second rise in

their sockets, until they fall out of their own accord or are removed by the child. It is a too common error to suppose that when the temporary tooth begins to be loosened it must be extracted. The fact that it is growing loose shows that nature is performing *well* her own work and needs none of our assistance. Only in those cases where the permanent tooth can be perceived by the protrusion of the gum, or where the edge has already passed through it, and the temporary tooth remains so firm in its socket as to impede the progress of the new tooth, or turn it out of its natural direction, should the temporary tooth be extracted.

In all such cases, no time must be lost before removing it, as by its persistence in the jaw the permanent tooth may be so far turned out of its natural direction as to establish a permanent deformity.

We all know that while the pulps of the permanent teeth are enclosed in their sacks, their position is below and behind the fangs of the temporary teeth, and when they emerge from the gums the points are generally a little posterior to the fangs of the temporary teeth. This fact sometimes gives great anxiety to the parents, lest the teeth grow too far into the mouth; but in general, if the milk-tooth is removed, the tooth of replacement in a short time comes into its proper position without any further assistance from art.

Many dentists and physicians, deceived by these appearances, and fearing irregularities, are led to extract the adjoining temporary tooth to make room for the advancing permanent one; an operation which, when commenced, must frequently be carried on with each successive tooth, until in the end, two of the permanent teeth have to be sacrificed to make room for the last of the advancing set.

For instance: When the central incisor makes its appearance, being broader and occupying more space than the temporary central, the lateral incisor is removed to make room for it; then when the permanent lateral appears, the cuspid next it is removed, and so on until at last some of the per-

manent teeth must come out to make room for the last newcomer.

This practice was recommended by Mr. Fox, but he was obliged to admit the necessity of extracting two of the permanent teeth. The following is his language:

"When the incisors are perfectly regular, and the bicuspides have appeared before the cuspidati, there is so little space left that the cuspidati are thrust too far forward. It has been a common practice" (happily of less frequent occurrence in our day than formerly), "to admit the cuspidati to grow down to a certain length, and then to extract them. This operation certainly removes the deformity of projecting teeth, but it destroys the symmetry of the mouth and takes away two teeth of great importance.

"The cuspidati are exceedingly strong; they form the support of the front of the mouth, and in the advanced periods of life, to those persons who have the misfortune to lose the incisors, they furnish an excellent means of fixing artificial teeth. On these accounts they should be preserved, and therefore it will be right to extract the first bicuspis on each side."

"The cuspidati will then fall into the circle, and if there should be any vacant space it will be so far back, that no defect will be perceived. This is often the case in the lower jaw, as well as in the upper, and the same practice ought to be adopted."

Mr. Bell, while deprecating the mode of treatment recommended by Mr. Fox, and abused by many of his successors, who adopted his views, says:

"There is yet another evil resulting from this mode of treatment, which has hitherto been unaccountably overlooked, but which should be impressed upon the mind of every practitioner to whom the care of second dentition is entrusted.

"The temporary teeth as long as they remain in the sock-

ets, from being arranged in a continuous and even series around the arch of the jaw, tend to preserve its form and prevent its contracting during the growth of the child, when every part of the body is undergoing continual alteration in form as well as in size.

"By the time these teeth have become loosened, the permanent ones, in the natural course of the change, are ready to fall into their place, and thus the correct form of the jaw is preserved; but if the temporary teeth be removed before the permanent ones are so far advanced as to be ready to occupy their situation, the support of the alveolar process being thus lost, the arch of the jaw contracts, and when, subsequently, the permanent teeth are fully formed, there is not room for them to range in their proper situation.

"Thus the operation which was intended to prevent irregularity, becomes the cause of its occurrence, and that in its very worst form; producing a want of accordance between the size of the teeth and that of the jaw.

"The following case illustrates these views: A fine healthy boy, about seven years of age, whose maxillary arch was ample and well-formed, with every appearance of sufficient room for the permanent teeth, was taken to a dentist (?) to have his mouth examined.

"This person without a moment's hesitation, and without informing the parents of his intention, placed the child's head under his arm, and instantly removed, with great dexterity, eight teeth, *all of which were firm;* nor was there any appearance of an irregular arrangement in the approach of the permanent ones. It was, indeed, some months before any of the latter made their appearance, by which time the remaining temporary teeth on each side had approached each other and contracted the space between them very materially.

"The consequence was, that the teeth were ultimately so irregular from want of room, as to require the loss of four of the permanent ones, two in each jaw, to allow them to acquire their proper situation.

"It is to be remarked that the other children of the same family (and they all greatly resemble each other), were not subjected to similar treatment, but nature was suffered to proceed in her own way, with very little assistance, and in no one of their mouths is there the slightest irregularity."

This contraction of the jaw takes place in all cases where the temporary teeth have been extracted long before the permanent ones advance to take their place, and arises from the *advance*, or crowding forward of the posterior teeth in the dental arch when the anterior teeth have been extracted prematurely.

When the superior central incisors first make their appearance, owing to their great width, they are frequently crowded and sometimes overlap each other, but, in a short time, if the general indications are favorable, they advance in the dental arch, and thereby obtain sufficient room without impinging too much upon each other, or upon the laterals.

This is one of the most critical periods of dentition, for as the permanent incisors appear behind the temporary, if the latter persist in the jaw, or if the space be too small for the former, so that it can not come forward into its proper position, until it is so far developed that its point strikes back of the lower teeth when the mouth is closed, it will of course become a permanent deformity, being held in its mal-position every time the teeth are closed.

Again, when the eye-teeth (which are usually the last of the teeth of replacement) first pierce the gum, they often appear some distance above the ridge of the alveolar process, and present the appearance of growing in the wrong position; but, unless the space between the first bicuspid and the lateral incisor be less than half the breadth of the crown of the cuspid, this appearance will prove deceptive and the eye-tooth will finally come down into place, and occasion no deformity.

This deceptive appearance arises from the fact that the cusp which first shows itself through the gum, is situated on

a line with the front surface of the tooth, but, the greater portion of its crown and fang being posterior to the cusp and vertical in the jaw, is just in the position to come down and force itself directly between the adjoining teeth.

M. Delabarre, in his treatise on second dentition, very justly remarks, while commenting on this practice of prematurely extracting the temporary teeth:

"Many a young person whose dentition has been thus conducted, after having endured the extraction of twenty still solid temporary teeth, an extraction made with a view of arranging those of second growth, has finally been deprived of four conoids, or eye-teeth, which perhaps would have been preserved through the whole of life, as we have had occasion to observe on a great many old men to whom these still remained. Those, therefore, who thus conduct second dentition, fall into the very difficulty which they most wished to have avoided; for their intention was to prevent *dentes exerti*, and these are the very results of their operations."

If we take into consideration the naturally crowded and imbricated position which the permanent teeth occupy while enclosed in their sacks, together with the fact that as they emerge from the gums, they advance and expand to form an arch of much greater dimensions than the one which they occupied while in the cavities of reserve, or when but half-grown, we shall readily perceive how space for the incisors will be gained as they advance in growth, and how their crowded appearance, so deceptive at first, gradually grows into order and regularity without the extraction of the adjoining teeth.

The incisors, cuspids and bicuspids, when well developed, constitute an arch, the extreme circumference of which measures, on an average, three inches. The average measurement of the semi-circle formed by the ten temporary teeth is about the same, while the external circumference of the

crowns of the ten anterior permanent teeth (which are to replace them) *when emerging from their sacks*, measures only about two inches and a half.

Thus it will be seen that as they emerge from the jaw, they are constantly gaining room until the circumference of the arch is completed.

This increase of space is, in many cases, equal to that occupied by a central and lateral incisor, between six and seven lines, which is gained in the circumference of the arch, *after* the edges of the teeth have cut the gum. When, therefore, we find the incisors but little crowded, or but slightly overlapping each other, we may let them alone, and trust to the natural method to bring them straight and regular.

When the indications are unfavorable at the age of seven years, from any or all of the appearances which have been described, and we have reason to apprehend an irregular and deformed denture, a very different course must be pursued, and the dentist will then have need of all his care and skill to insure a regular set of teeth, and prevent a permanent deformity.

I shall now endeavor to describe some of the irregularities which arise when nature, from *any* cause, is impeded or frustrated in her work, during the process of dentition; and the means which should be used to assist her; for it must be remembered that "the efforts made to remedy or prevent irregularities in the arrangement of the teeth should always be in strict accordance with nature."

We are not to attempt to take the work out of her hands, but to coöperate with her to produce the desired result.

Irregularity may arise from a "want of concert" between the absorption of the fangs of the temporary teeth and the growth of the permanent ones.

If the absorption be too slow, the teeth come through the gum and are forced into a wrong position by the persistent fangs of the temporary teeth. Or, it may arise from the size of the permanent teeth being too great for the space afforded by the temporary ones.

When caused by the persistent fangs of the temporary teeth, this form of irregularity may become permanent if not prevented in time by the extraction of the teeth which remain in the way of the advancing set.

That form of temporary irregularity which arises from the disparity of size between the temporary and permanent incisors, is best relieved by the loss of the temporary molars. The average measurement of the four temporary incisors is ten-sixteenths of an inch or three-sixteenths of an inch less than that occupied by the teeth of replacement, while the temporary molars occupy a space three or four-sixteenths greater than the bicuspids by which they are to be supplanted, so that the space occupied by the temporary teeth, and that of the ten permanent ones which are destined to take their place, is the same.

If this fact be borne in mind, no danger will be apprehended from the temporary irregularity of the incisors.

Let us now suppose that one of the centrals has made its appearance, but so disproportioned in size to that of the tooth which has been shed, that there is danger of its being permanently pressed out of its natural position unless more space is afforded for it immediately; room is made by extracting the temporary lateral, and in a short time the other central is seen in the same condition and is treated accordingly in the same way.

Within a year from the time of the eruption of the central incisor, the lateral begins to make its appearance through the gum, and finds itself as much cramped for room as the central had been, in fact, more so, for the permanent central frequently occupies almost all the space originally allotted to the temporary central and lateral.

Now to make room for the lateral, instead of removing the temporary cuspid as recommended by some, we extract the first molar which is just behind it and which allows the eye-tooth to yield as the lateral incisor gradually comes into its proper position.

The next tooth which in the natural order of dentition, and during the tenth year, makes its appearance is the first bicuspid, which if not much larger than usual forces itself between the second molar and cuspid without any difficulty; if, however, the space be too small for it, and it begins to show signs of growing in a wrong direction, room may be obtained by extracting the second molar; but this should not be done in a hurry.

Within the eleventh year the second bicuspid may be expected to take the place of the tooth last extracted. By this mode of treatment we have preserved the temporary canine, and may expect its place to be occupied by the permanent eye-tooth sometime within the twelfth year. When this plan of treatment has been followed, in a well-developed jaw, I have never known an irregularity to become permanent; nor will it often become necessary to remove any of the permanent teeth to insure a handsome set in either the upper or lower jaw.

Sometimes it happens that the cuspids are shed, and the permanent eye-tooth makes its appearance before the bicuspids.

When this is the case, if there is a deficiency of room, the first or second molar may be extracted; but the space usually occupied by the temporary molars and cuspids is equal to that of the bicuspids and the permanent eye-teeth, so that if no room be lost by extracting the temporary teeth too early, all the teeth of replacement may be brought into the arch.

In extreme cases, however, when it becomes necessary to sacrifice one of the permanent teeth, a bicuspid should always be selected in preference to an eye-tooth, as the latter next to the incisors are the chief ornaments of the mouth. They are the largest and strongest of the front teeth, and form the chief support of the anterior portion of the jaw.

The loss of an eye-tooth destroys the symmetry of the set, and often occasions a permanent depression in the alveolar process where its fang was situated.

By far the greater number of cases of irregularity in the arrangement of the bicuspid teeth, in both jaws, which have come under my observation, have arisen from the early loss of the temporary molars by caries.

This source of irregularity has scarcely been noticed by any of the writers on dental surgery whose works I have seen; but in our country it is certainly more productive of that crowded condition of the bicuspids and canines which we so often see, than any other, and should be guarded against by the most scrupulous care and attention. By the end of the third year the temporary teeth are all fully developed in each jaw, where the molars and bicuspids should remain from seven to nine years, before they are replaced by the permanent set, at the ages of ten, eleven, and twelve.

In many cases, however, the temporary molars begin to decay before half this time has elapsed, and at the age of six or seven years, and sometimes as early as three or four, caries penetrates to the nervous pulp of the tooth, and causes such inflammation and pain that the tooth is extracted in order to relieve the suffering of the little patient.

If this happens before the seventh year, and if the tooth extracted is the second molar, the first permanent molar will frequently make its appearance soon after, and before space has been formed for it by the natural development of the jaw; but it will grow forward and occupy a part of the space made by the extraction of the temporary tooth. A similar effect will be produced if the crown decays and breaks away, and the fangs are suffered to remain in the jaw; these occupying less space than the crowns, will be pressed together by the gradual development of the tooth behind them, which will come forward and occupy a portion of their space; for it is a general law in the development of the teeth, that the permanent "six-year-old" molars make their appearance through the gums soon after a place has been formed for them, whether this be by the natural development of the maxilla, or the extraction of one of the temporary molars.

By this means the molars on each side of the jaw often appear six or eight months too early, and half their size too far forward in the jaw; and as these teeth form the solid abutments on which the arch formed by the ten teeth of replacement is to be built, it follows as a matter of course that it must be crowded and irregular, or some of the teeth must be left out. Having in my practice seen and experienced so much trouble from a too early loss of the temporary teeth by caries, I feel that I can not too vividly impress upon the minds of those who are younger in years and experience than myself, the great importance of the preservation by plugging of these so necessary adjuncts toward the formation and usefulness of the permanent set.

Many parents have not learned that it is of the slightest importance that the temporary teeth should be kept in the mouth until those which are to take their places are ready to come through the gum, and do not take their children to a dentist until driven to the necessity by their terrible suffering from an exposed pulp, and then only to have the offending member "pulled," and too often are their ignorant but well-meaning demands gratified by gentlemen in the profession, who do, or should, know better.

We should impress upon the minds of parents who may be under our charge the great necessity of early care of, and attention to their children's teeth, and educate them up to what we know ourselves, and we shall thereby do an incalculable amount of good to the parents and their children, besides materially lightening our own burdens in the future.

Before the time of Mr. Fox, the practice was to wait until all the teeth were developed, and then extract the irregular one, which is usually the eye-tooth; but that writer advised the removal of the first bicuspid so as to allow the canine to come into its place. This practice has been generally followed, although some have thought it better to extract the second bicuspid, that the space, if not entirely filled, may be further back in the mouth, and therefore less conspicuous.

Mr. Leonard Kœcker, author of a practical treatise on dental surgery, was the first to recommend as a general practice, the removal of the first permanent molars; although both Messrs. Fox and Bell advised it whenever this tooth was decayed. Says Mr. Kœcker:

"The first molars are generally most predisposed to disease, they are least important as it regards both appearance and utility, and so situated as to afford, by timely removal, sufficient room for the anterior teeth, as well as for the second and third molars. If, then, these are extracted at any period before the age of twelve years, all the anterior teeth will grow more or less backward, and the second and third grinders so much toward the anterior part of the mouth, as to fill up almost entirely the vacant spaces caused by the removal of the first molars."

By this treatment, Mr. Kœcker thinks that "all the teeth will be improved in strength and health, and particularly the dentes sapientiæ, which will sometimes penetrate the gums much sooner, and prove of larger size and possessed of greater firmness than usual."

Other writers have urged the expediency of extracting the permanent molars, *when the bicuspids are sound*, but my own experience and observation induce me to advise the preservation of the first permanent molars *if it is possible*, and if any one of the second set *must be lost*, that it be the second bicuspid.

In the treatment of all the cases of irregularity which have been alluded to, it is important that we should be governed by general principles. It will be necessary to take into consideration the health and strength of the patient, aud the degree of development of the misplaced tooth.

If the permanent regularity of a second tooth is endangered by the presence of the temporary, it should at once be extracted; for however important it may be to preserve the temporary teeth, it is better that, in the end, a permanent

tooth should be sacrificed than that the others should be deformed. There is no fixed rule which can be laid down to govern our treatment in any one case (except the rule, to preserve the full set of permanent teeth in the mouth if pos sible); but we must bend to the circumstances of the case to be treated.

It will therefore be advisable, when difficult and complicated cases are presented, that we consult with the more experienced in this particular branch; or if we lack confidence in our own ability (as I know many do), that we commit the case to the treatment of some one in whose experience and judgment we have confidence.

The first and second permanent molars seldom require any attention, as there is nothing to interfere with their growth when the maxillæ are sufficiently developed; but the wisdom-teeth are often misplaced in the jaw, and sometimes produce serious disorders which greatly affect the general health.

Mr. Tomes divides the irregularities of the wisdom-teeth into five different varieties:

1st. "When they grow obliquely forward, with their masticating surface toward the posterior surface of the second molar."

2d. "When the crown is directed outward, toward the cheek, and may be imbedded in the cheek."

3d. "When it takes an internal direction toward the tongue."

4th. "When it is directed upward in the coronoid process of the inferior maxilla, and may be wholly or partially imbedded in the bone."

5th. "When its full development in the jaw is prevented by indurated gum."

To these we may add a

6th. Which is more common than any or all of these together. It is—when the upper wisdom-tooth is developed

first, or when both grow together so as to produce a contusion of the superimposed gum.

Difficult dentition of the wisdom-teeth from any of the above causes, is often very troublesome, and, in some cases, dangerous. Considerable inflammation is induced, which extends to the joint and produces rigidity of the muscles, swelling of the throat, with painful deglutition; and if the tooth be impacted in the jaw by growing against the coronoid process or the second molar, ulceration often occurs, which may open directly into the oral cavity, or discharge through the cheek, until the cause is removed.

Ulceration of the cheek or the side of the tongue near its base, may also be produced when the crowns are directed outward and imbedded in the cheek or in toward the tongue.

Many cases might be related which would forcibly illustrate the kind of disease which frequently results from a mal-position of a wisdom-tooth. The following case, however, which occurred in my own practice, a few months since, shall suffice for this essay:

In this case an ulcer—which was occasioned by a molar tooth which pointed far into the mouth, and had been broken so as to leave it rough—had formed upon the side of the tongue, and was pronounced, by a physician in fine standing in New York City, as cancerous; he said he could cure it in six or eight months.

The lady who was the sufferer had occasion to call upon me to have some teeth plugged; and immediately upon my looking in her mouth, asked if I noticed anything peculiar about her tongue. I told her I did, and that the trouble was caused by the rough tooth which pressed into and constantly irritated it. She then told me what her physician had said, and how much it had troubled her. I bade her dismis her fears, as I was sure I could cure it very easily and quickly.

I smoothed the rough tooth, and in one week from that time, when I next saw her, the difficulty had disappeared, *cancer* and all.

There are many cases in which these teeth are irregularly developed, in which no serious disturbance or inconvenience is manifested; but in a peculiar diathesis, where there is great nervous susceptibility, a predisposition to inflammatory action, or to scrofulous affections, very severe effects may result from mal-positions of the wisdom-teeth.

In those cases where the development of the tooth is arrested by indurated gum, the gum should be freely divided with a lancet, which will give immediate relief. When contusion of the gum is caused by closing the teeth, it often produces severe inflammation, especially when the patient has been exposed to any sudden change of temperature. The inflammation often extends to the glands of the throat, producing great soreness and swelling, with such rigidity of the muscles of the jaw, that it is with the greatest difficulty that the mouth can be opened sufficiently to allow an examination of the affected parts.

The proper remedy in such a case is to excise the whole of the gum which lies upon the masticating surface of the tooth; but if the upper wisdom-tooth is not important for mastication on account of the antagonising molars being gone, a milder and more effectual operation will be to extract it, which will give immediate relief.

Irregularities are frequently caused by *supernumerary* teeth. The proper treatment will be, to remove these at once. If the teeth have been much separated by the offending intruder previous to its removal, they should be gently drawn together by a small ligature of india-rubber, or by slips of rubber placed between them and the adjoining teeth, care being taken not to force the teeth too fast.

Irregularities are sometimes produced by the transposition or misplacement of the teeth, as when the lateral and central change position, or the lateral incisor and the cuspid, the former being placed behind the latter. This form of irregularity is probably caused by the persistence of one of the temporary teeth. Several cases of this kind are reported in

the dental periodicals, and Dr. Harris has described one in the American Journal, where the eye-tooth was developed between the bicuspids; a deformity of the latter kind has also come under my own notice during the past year. If the deformity has caused no other irregularity, it will be best to suffer it to remain; but if the teeth are much crowded and can not be relieved in any other way, that tooth should be extracted which will leave the others in the best condition.

Among the singular aberrations which take place in the growth and formation of the teeth, it sometimes happens that they are fully developed in the substance of the maxillary bones, without ever coming to the surface of the gum.

A case is related by Albinus, "where two teeth, between the nose and the orbits of the eye, one on the right side and the other on the left, were enclosed in the roots of those processes that extend from the maxillary bones to the eminences of the nose. They were large, remarkably thick, and so very like the canines, that they might have seemed to be these teeth themselves, which had not before appeared; but the canines themselves were also present, more than usually small, and short, and placed in their proper sockets."

It is probable that these were the persistent temporary canines, and that those described as being so near the eye were the permanent ones.

Whatever may be thought of the popular name given to the canines, there can be no doubt but what *these* were genuine "eye-teeth." There is in the Baltimore College of Dental Surgery, a skull, in which all the teeth are naturally developed except one, which is a supernumerary. It is about an inch long, and situated between the fangs of the central incisors, with its crown pointing upward, and extending almost to the floor of the nasal cavities.

The following very remarkable case is taken from the Dental Register of the West:

"Mr. J. W. D., of Hardy County, Va., called on me for advice in the winter of 1848, in reference to a great deformity of the upper jaw, having an enlargement of the alveolar process of the superior maxilla, corresponding to the left central incisor, left cuspidatus, and dens sapientia. These portions of the maxillary bone projected very much, causing a corresponding protrusion of the upper lip. The three above-named teeth were absent; and being undecided as to the nature of the enlargement, I made an incision over the enlarged process, and found no indication of disease in the bone itself. I then took a small hand-drill, and by a few revolutions came in contact with a very hard substance, which I at once pronounced a tooth; but notwithstanding an assurance on my part that I could by an operation entirely remove the deformity, he declined having it undertaken at that time.

"About a year after this, he called upon me again, and requested me to operate.

"I commenced by making a deep incision on each side of the frænum labiorum, which I carried up to the nasal fossa.

"I then took a chisel-shaped instrument and cut away the bone, which to my great gratification exposed the three absent teeth already named, which I found imbedded in the bone. By the aid of the forceps I succeeded in removing them without any difficulty; there was no hœmorrhage, and I put the patient under the ordinary treatment after operations upon the mouth.

"The wound soon healed, and I had the satisfaction of seeing the projection of the lip entirely removed.

"In this case the alveolar arch had contracted so that the space which would have been occupied by these teeth was entirely closed, by the approximation of the others.

"Mr. D. informed me that when about five years of age, he received a violent blow on the mouth and left side of the face, and to this circumstance he attributes the origin of the deformity, and the displacement of the teeth.

"I also ascertained, on an examination of the mouth, that

the superior maxilla had been fractured, and that the upper teeth on the left side stood about half an inch on the inside of the inferior teeth.

"What is most remarkable in the history of this case, is, that the central incisor, which was imbedded in the bone, had been broken at its neck and reunited by the deposit of ossific matter."

From the early age at which this accident occurred (five years), I am inclined to think that this tooth could not have been ossified much, if any, beyond its neck,; so that instead of a fracture of the dentine, it was probably nothing more than a deflexion of the pulp, which, remaining permanent, allowed it to ossify in the form in which it was found when the operation was performed, which was at a right-angle with the fang, similar to a specimen which may be seen in the museum of the 'Philadelphia Dental College.'

Mr. President and Gentlemen, I have thus attempted to describe those temporary forms of irregularity of the permanent teeth, which we most often meet with in our practice, and to point out and explain what I conceive to be the proper course for us to pursue, in order to prevent them from becoming permanent deformities.

I consider that a knowledge of the means which are to be employed to prevent irregularity and decay of the teeth (for irregularity always predisposes the teeth to decay), is more necessary to us than almost any other branch of dental education.

The rules and laws which should govern us in this branch of our profession are few, and simple, requiring but little more of us than watchfulness, advice, and patience, with an occasional judicious application of the gum-lancet, and the forceps.

NEW YORK, (18 West Eleventh Street), July 27th, 1863.

EXPOSED PULPS AND ALVEOLAR ABSCESS.

By A. C. Hawes.

Mr. President and Gentlemen:

In the paper I am about to offer to this Association, it is not my purpose to trespass very long upon your attention, although the subject I wish to introduce is one, in my humble opinion, of the gravest importance, and has recently been awakening a deep interest in a portion of our profession:—I allude to the treatment of *Exposed Pulps and Alveolar Abscess.*

It has seemed to me that, for a long time past, this branch of Dental practice has been most shamefully neglected; and, as a natural consequence, many valuable teeth have been, and still are, condemned to the forceps, with the consoling reflection that "Dead men tell no tales." I believe it to be one of the most important duties of this Association to take some action, with a view to inform the public that the wholesale extraction of teeth, which has been so long and patiently submitted to, is, in the opinion of the gentlemen composing this meeting, perfectly unwarranted, and has continued quite long enough; and that, hereafter, the responsibility for this unnecessary sacrifice, should rest where it properly belongs. To remove a tooth because it is assailed by disease, instead of allaying the disease, or simply eradicating the diseased part, is very near akin in principle to that treatment in surgery, which should amputate an arm because there is a felon on the finger, or kill the patient outright in order to overcome an attack of the gout. To preserve nature, whenever it is possible, is certainly a higher reach of art.

During the five years' pursuit of my profession in the great "Dental Emporium of the world," I have frequently had occasion to witness cases of mal-practice in the over-hasty removal of teeth, on the part of some of our Dental operators, whose reputation has heretofore been such as to almost preclude the idea, that a want of information upon

this subject could be offered as an excuse for the injury inflicted. Indeed the advanced position which our specialty has now attained, and the scientific knowledge and judicious experiments which have of late been brought to bear upon its progress, make it little less than a crime for any member of our profession to extract such teeth as careful and intelligent treatment would render serviceable for life; or, to plug a tooth over a diseased, inflamed, or dead pulp, knowing it to be in this condition. And I regret having to assert that such operations are performed almost daily in the great city of New York, *possibly elsewhere;* and very often with the *gratuitous* information that an "alveolar abscess" may soon make its appearance, in which case "*extraction*" will remedy all further trouble.

Much has been said and written, within the past year, on the subject of Alveolar Abscess; and inasmuch as there is a difference of opinion with respect to its origin and development, I do not care just now to enter into the pathology of the disease; but will confine myself to a few facts connected with the treatment of exposed pulps and alveolar abscess, which accord with my own practice and experience. The idea is so well established in the mind of every competent operator that I scarcely need here assert it, that an exposed, inflamed, or diseased dental pulp or nerve is more likely to induce alveolar abscess than all other causes combined. If this be true, our attention should at once be directed to the best treatment of the exposed pulp of every tooth entrusted to our care, so as to avert that great bane of all dental progress—alveolar abscess.

Our best informed operators still differ in opinion as to the safest mode of proceeding with exposed but apparently healthy dental pulps. Some believe it advisable to attempt the preservation of the life of the nerve, and have resorted to various means, with more or less success, to accomplish that result;—such as capping, cauterizing, and the use of non-conducting agents, previous to plugging. While others are

of opinion that the future safety of the tooth, with a greater probability of preserving the periosteum in a healthy condition, is more likely to be secured by a prompt devitalization and entire removal of the dental pulp. My own observation and experience have, for the last few years, led me to adopt the latter practice, believing it to be far preferable to any other known to our profession. We can not rely upon obtaining the same happy results in the treatment of a dental pulp, that may reasonably be expected from the treatment of all other animal tissues, owing to the confined and limited space it occupies within the solid, bony structure of the tooth. The very effort to relieve itself by expansion consequent upon an increased circulation, naturally induces still further irritation. This increases to a greater or less degree, according to the extent of the inflammation in which it had become involved, until the final result is the destruction or death of the entire pulp. The inflammation then extends to the periosteum, terminating in alveolar abscess.

In all cases of exposed dental pulps, whatever treatment for their preservation may be adopted, there is always more or less danger of inflammation ensuing. I would therefore recommend their prompt destruction and entire removal. This I usually accomplish by applying a minute portion of arsenic, combined with creosote, directly over the point of exposure, covering it with a plug of cotton moistened with a solution of gum sandarach. This may remain three or four days, as circumstances seem to require, until the tooth is in a condition to be proceeded with. I think I know full well on what delicate ground I tread, when I assert that more than ninety-five *per cent.* of all teeth, thus judiciously treated and properly plugged, may be rendered as sound and serviceable as when in their normal condition. You thus avoid periosteal inflammation, and consequently secure a vigorous circulation through the cementum; which is sufficient, where there are no disturbing causes, for a healthy support of the entire tooth.

I have seldom been able to obtain satisfactory results in attempting the preservation of the life of the pulp, after its exposure. I freely admit that there are individual cases, in which the future health of the tooth and periosteum have been secured after exposure, and even after the wounding of the pulp; but, Gentlemen, until we have more evidence than is yet in our possession upon this subject, I shall claim that success, even when the nerve escapes being wounded, has been the *exception* and not the *rule*. Lest any of my keen-sighted professional brethren may suppose that he discovers symptoms of "dead pulp on the brain," I desire to explain myself, so as to stand clear upon the record. I do *not* advocate the destruction of a dental pulp, unless by so doing, the future safety and usefulness of the tooth can with greater probability be secured; and I always use great caution in the excavation of a cavity, so as to avoid, if possible, uncovering the nerve. I believe there are no good reasons, why a small portion of decomposed dentine may not, with safety, be allowed to remain directly over the pulp, as a more natural protection for that delicate organ than any substitute we can employ, unless there be some evidence of previous irritation. In this case, it is evidently advisable to destroy and remove the pulp; which operation may be so carefully and delicately performed, that even periostitis will seldom appear in consequence. Then, as soon afterward as practicable, it will be safer to commence and complete the plugging of the roots and the entire tooth. Should inflammation follow, as of course we know it occasionally will, inasmuch as the circulation and general action of the surrounding parts would be very considerably changed, I have found depletion, as a remedial resort in simple periostitis, more successful than any other treatment; not, however, by the use of the lancet, as that sometimes causes still greater inflammation; but by the aid of a leech. If the patient will then allow the bleeding to continue as long as possible, aiding it by rinsing the mouth freely with warm water, the inflammation can usually be re-

duced. Should this fail, local applications may be resorted to.

The treatment we have been recommending, is designed for pulps simply exposed, or found in the early stages of disease. There will be some instances, however, in which mistaken remedies, and others in which entire neglect, have led to the formation of alveolar abscess, which comes before us, in a milder or more malignant form for treatment, before we can proceed to the plugging of the tooth.

It was but a few years ago, that our much esteemed, and widely popular American Dental author, Dr. Chapin A. Harris, announced to the world in his work on the "Principles and Practice of Dental Surgery," that "the *only cure* for alveolar abscess was the removal of the tooth that gave rise to it." It is now, however, well known to many of our profession that it can be successfully treated. Principles have been developed, which will ere long establish a certain and reliable mode of treatment, for the guidance of those willing to follow the dictates of truth and humanity. The method that I have found best adapted for the milder, or more recently developed types of alveolar abscess, is by first thoroughly excavating and cleansing the entire pulp cavity; which I accomplish by the use of suitable drills and burrs, the shanks of which have been well annealed, continuing the opening quite through the apex of the root. We are then prepared to make our applications directly at the point of disaffection.

After securing an opening as above described, I rely very much upon the free use of creosote, both as an antiseptic, and also as an escharotic, which I force through the opening with a small broach wound with cotton. Frequently I inject a weak solution of nitrate of silver. A leech also may often be employed with the happiest results. I then fill the upper portion of the canal with cotton, moistened with creosote, covering it over and allowing it to remain for a few days. This treatment I repeat, until a fresh and natural flavor of the creosote is observed on its removal from the cavity, which

will usually require about two weeks. It is advisable at the same time to paint the gums with the tincture of iodine, for the purpose of improving the circulation of all the surrounding tissues. If the patient has experienced no pain during this treatment,—and instances are rare where any suffering exists after the first opening of the cavity,—I at once and with entire confidence proceed to the filling of the root: first, by inserting a small piece of cotton, about the size of a pin's head, well saturated with creosote; and then, plugging both root and tooth with gold, as solidly as the circumstances will allow. I have found this to be about the extent of the difficulty attending the successful treatment of benign alveolar abscess.

When the abscess is of long standing, and has assumed a malignant form, of course the treatment will need to be more extended. A prompt use of the lancet and bistoury will be found necessary, for securing a free opening through all the soft tissues and alveolar plate. The remedies that I have mostly depended upon in this stage of the disease, are chlorate of potassa, nitrate of silver, and creosote, used in the form of dressing; or in weak solutions injected into the opening with a syringe. But recently, more prompt and certain results have been attained by an addition to these remedies of a saturated solution of re-sublimed iodine and creosote. This solvent may be applied with tents of cotton, and allowed to remain, so as to prevent cicatrizing, previous to securing a healthy action at the root of the tooth. These dressings require frequent changing, and alternating with the simple tincture of iodine. We are indebted for this discovery to Dr. W. H. Atkinson; as well as for his generous efforts in bringing his mode of treating alveolar abscess before the profession.

If, Gentlemen, I have seemed to speak too warmly or too decidedly of my own opinions or experience, it is because I have deeply at heart the progress of our profession, and have learned to confide in that treatment which I have invariably

found most successful. And I think we may congratulate ourselves, as members of this intelligent fraternity, that a free interchange of opinion, and an unprejudiced comparison of our various methods of practice, have already led, and will continue to lead, to more enlightened advancement.

DENTAL EDUCATION.

By J. S. Latimer, D. D. S.

At the meeting of this society, held in 1860, on motion of Dr. Alport, it was

"*Resolved.* That the American Dental Association most respectfully recommend to our Dental Colleges the necessity of being more particular in requiring of their matriculants a higher order of general literary and scientific education, and the strictest enforcement of their standard requirements for graduation."

This is a step in the right direction, but it does not lay the ax at the root of the tree. Few of the professions are more afflicted with quackery than our own, and this may be in part consequent on our transition state. It is not true, however, that our colleges encourage empyricism, to any considerable extent, or that their graduates go out to swell the ranks of quackery. The few brief months of college study, teach them one very important lesson, namely—the vastness of the field, by *them* still unexplored. Besides this, hardly one in eight of the hundreds who annually swell our numbers attend a college at all.

It is fair to assume that every empyric in the profession came voluntarily and with the consent and encouragement of some one already in our ranks. So it *has* been; so it *will* be. We may further assume that in the main, quacks are begotten of quacks; but it is equally true that the better class of practitioners have not yet taken the high stand which shall entirely free them from the odium consequent on the appearance of their illegitimate offspring.

The great, central idea I would impress upon the profession, is this—the *careful* SELECTION *of our pupils.* As private pupilage is the only door of admission now imperatively necessary, so those who keep the door are responsible.

Many men mistake their callings and toil against the grain all their days; neither will this cease until the great truth taught by physiology and phrenology of the innate differences of capacity shall be practically acknowledged and acted upon.

Qualifications are natural and acquired. They may also be divided into mental, moral, physiological, and habitual. The mental includes reason (the ability to discover causes by their effects), constructiveness, ingenuity, tact, taste, dexterity, perseverance, industry, culture, etc.

The moral includes honesty, benevolence, chastity, temperance, etc. The physiological are strength, health, temperament, conformation. The habitual are studiousness, politeness, neatness, order, etc.

Some of these, as reason, constructiveness, honesty, and health, are of vital importance, and all are essential to him who would be a master.

These facts are so palpable that it does not seem necessary for me to enlarge upon them.

In conclusion, permit me to say a word on the management of pupils.

Before the would-be preceptor entertains a proposition, he should feel that he is able and willing to perform faithfully the function of teacher; a responsibility which many are ready to assume, but few have ever realized. And here, let me say, the man who would be mainly influenced by the paltry *fee* is unfit to teach.

The preceptor should realize that the injurious effects resulting from the inculcation of an erroneous doctrine, or a careless method of operating, does not cease with the life of its recipient; but, imparted from generation to generation, may radiate its bane until a nation shall be cursed. Thus it

behooves him who teaches, to weigh well his words.—to be careful of his influences.

If the applicant for pupilage, on proper examination and inquiry, proves to be eligible, the next to be considered is the contract (for written agreements should always be executed in such cases).

I would recommend that the stipulations include, on the part of the preceptor the affording of every facility to the student and the taking of laborious pains in imparting a correct knowledge of every branch of dentistry: and, on the part of the pupil, a pupilage of at least two years besides the attendance of at least two full courses of lectures at any reputable dental college.

Much more might profitably be said on this subject; but, as my object will be accomplished if I succeed in drawing attention to it, I shall gladly leave it to wiser heads, hoping that good may come in the shape of definite action.

New York, July 27th, 1863.

A REPORT ON THE CONDITION AND ORGANIZATION OF LOCAL SOCIETIES.

In behalf of the Committee on Associations.

By J. Taft.

At the last annual meeting of the American Dental Association, a committee, consisting of two members, was appointed for the purpose of conferring with the profession as opportunity might offer, in regard to the subject of local associations, especially in reference to the establishment of new organizations.

Associated effort and intercourse in all departments of human occupation, is regarded as a great element of power and efficiency. In the professions is this true, perhaps, to a greater extent than elsewhere, and in none more than in the dental profession. It, as a profession, is unlike all others;

it is a blending of the principles of medicine with the mechanic arts, to such an extent and in such a manner as is nowhere else found: Hence it behooves him who would properly assume its duties, to acquaint himself with the general principles of medicine, not only theoretically, but practically to a considerable extent; and in addition to this there must be a high order of mechanical and artistic skill, and that of large range. This combination opens up a vast field, in the occupation of which associated effort comes in with immense power.

The question then occurs, why do not all avail themselves of the advantages thus obtainable?

And first, we apprehend that men generally in our profession, as elsewhere, have not been awake to the importance of the subject; most certainly this has been the case with the great majority of our professional brethren throughout the country, till within comparatively a recent period. Within the last few years, however, much has been done, especially in the United States, by associated effort; though it has wanted that system and arrangement that is desirable, or that would produce the largest results. It is owing, perhaps, to the existence of such efforts that the profession in this country occupies its present position.

Again, outside of large towns and cities, a want of contiguity has rendered it difficult for dentists to form associations, and convene often enough to keep an interest. This difficulty, however, is being surmounted by the increased communication. There is also a greater or more extended appreciation of the importance of the subject. Many who have seemed to be almost isolated, have attached themselves to permanent societies, and at very considerable distance from their field of labor.

The tendency now is to form dental associations at all feasible points; and we are happy to state the conviction that the formation of this National Association has been a great stimulus in that direction.

Again, jealousies and selfishness have kept many of the members of the profession asunder and isolated, when they should have been together.

The importance of associated effort was recognized and acted upon twenty years ago, the result of which was the organization of the American Dental Society. It was a pioneer, and did the work of a pioneer. It did not at any time influence any considerable portion of the profession, at least so far as numbers were concerned; though it had in its embrace many of the best men of that day in the profession.

It had for its object, "To promote union and harmony among all respectable and well-informed dental surgeons, to advance the science by free communication and interchange of sentiments, either written or verbal, between members of the Society; in fine, to give character and respectability to the profession, by establishing a line of distinction between the truly meritorious and skillful, and such as riot on the ill-gotten fruit of unblushing impudence and empiracism."

These were high and noble objects, and perhaps were carried out, so far as the influence of the Society extended. It did a good work, however, for its members in the days of its prosperity; but alas! evil days came upon it, when disputations, contentions and divisions came in and took away its prestige, usefulness, and ultimately its existence. Or perhaps we had better say it fulfilled its mission, did all it had the ability to do, and died a comfortable death. Its influence, however, did not then cease, for its records stand as a beacon-light, serving the double purpose of warning and directing. It numbered at one time about thirty members.

The Mississippi Valley Association of Dental Surgeons, was organized in the year 1844, by members of the profession from all parts of the Mississippi Valley. It is now the oldest dental society in existence. There have been, from the organization to the present time, over one hundred members. There are, at the present time, thirty-seven active members.

Its proceedings and operations are so well known to the profession, that any special details are unnecessary. Its meetings have been held annually, and always in the city of Cincinnati. It has secured the appellation of "The working Society." In addition to the production of essays, papers, discussions, etc., it has several times given premiums for teeth, instruments and appliances, and also gave a prize of one hundred dollars for a popular essay on dental surgery, which was published and circulated to a considerable extent by the profession in the West, and with the most happy results in every instance.

The officers at present are as follows, to-wit: E. Collins, President; H. R. Smith, Vice-President; H. A. Smith, Recording Secretary; Geo. F. Foote, Corresponding Secretary; J. Taft, Treasurer,—all of Cincinnati.

The delegates to the American Dental Association are:—Drs. J. P. Ullery, of Rising Sun, Ind.; H. McCullum, of Augusta, Ky.; E. Collins, George F. Foote, W. C. Duncan, of Cincinnati, O.; and W. H. Shadoan, of Withamsville, O.

Pennsylvania Association of Dental Surgeons.—This Society was organized in the city of Philadelphia, Pa., December 15th, 1845; and at first consisted of twenty-four members. "The time having arrived when it was expedient to organize an association of dental surgeons," a call, signed by most of the prominent members of the profession in that vicinity, was issued for a convention of dentists; this was held and resulted in the formation of a Society. A constitution and by-laws were framed and adopted.

The objects of the Association are set forth as follows; "To cultivate the science of dentistry, and all its collateral branches; to elevate and sustain the professional character of dentists; and to promote among them mutual improvement, social intercourse, and good feeling."

The constitution certainly was a model for that time, and indeed we could now scarcely suggest an improvement. The

by-laws are elaborate, consisting of twenty-one articles; they are very minute in specifications, and very good.

This Society has gone steadily on, accomplishing a vast amount of good for the profession. Its transactions and discussions have usually been published, and were of much interest to the profession.

This Association now consists of fifty-three active, and six honorary members.

The present officers are—Dr. Wm. W. Fouche, President; Dr. J. F. Flagg, Vice-President; Dr. Geo. W. Ellis, Recording Secretary; Dr. C. A. Kingsbury, Corresponding Secretary; Dr. S. Dillingham, Treasurer; Dr. C. E. Hopkins, Librarian,

Permanent members of the American Dental Association: Drs. S. Dillingham, J. H. McQuillen, C. P. Fitch, Geo. T. Barker, J. F. Flagg, J. W. Van Osten, D. McFarlan, B. M. Gildea, J. L. Suesserott, and Geo. W. Ellis.

The delegates are—T. L. Buckingham, C. N. Pierce, Charles Moore, and J. Hayhurst.

The Association meets once a month.

From the year 1845 to 1855, there were a number of dental associations formed throughout the country; but few of which had any considerable duration. Some account of these might be to us interesting, had we more of their history.

The Michigan Dental Association, was organized January 8th, 1856. It meets annually, on the third Monday of January, at such place as may be designated. There are eighteen active members.

The officers at present are as follows: H. Benedict, of Detroit, Mich., President; G. W. Stone, of Detroit, Vice-President; J. A. Watling, of Ypsilanti, Mich., Secretary; J. Mansfield, of Niles, Mich., Treasurer.

The names of the permanent members of the National Association are—Drs. Wm. Cahoon, and H. Benedict, of Detroit, Mich.; and J. A. Watling, of Ypsilanti, Mich.

The present delegates are—Drs. J. A. Robinson, A. F. Metcalf, C. E. Bartlett, and J. Mansfield.

This society is the only society in the State of Michigan, and may be considered a permanent institution.

New York City Dental Association, was organized on the 20th of March, 1860, with eleven members; during the first year, there were added eight new members. The meetings are held monthly, and the officers elected annually. At the meeting of organization the following Preamble was presented and adopted:

"WHEREAS, The rapid progress of the dental art in America can be clearly traced, in a great measure, to the interchange of thought elicited by the establishment of dental associations and dental periodicals; and *whereas*, the profession in other cities are organized and aiding in Dental progress, by associations and publications: It is therefore deemed expedient, for our own honor and interest, to organize a dental association in the city of New York."

Soon after the organization of the Society, the following resolution was adopted:

"*Resolved*, That the dental profession and the public be cordially invited to attend the meetings of this Society, with the exception of the regular quarterly meetings."

Thus the door of instruction was thrown open.

By reference to the proceedings, it will be seen that from the beginning the discussions have taken a wide range, embracing a great variety of subjects, all interesting and instructive to the true searcher for light.

The present officers are—T. H. Burras, President; W. B. Hurd, 1st Vice-President; W. H. Allen, 2d Vice-President; Charles D. Allen, Recording Secretary; N. W. Kingsley, Corresponding Secretary; A. A. Wheeler, Treasurer; Thos. Burgh, Librarian.

The delegates to this Association are—Drs. T. H. Burras, ... Ambler, Thos. Burgh, Geo. Perrine, B. W. Franklin, John Allen, N. W. Kingsley, and O. A. Jarvis.

There are at present thirty-seven active members. This Society gives promise of permanency and great good.

The Northern Ohio Dental Association, was formed in Cleveland, March 6th, 1860, by five members originally; there are now nineteen. It meets annually, on the first Tuesday of May; though there are frequent called meetings.

The officers are—B. Strickland, of Cleveland, President; H. P. Huntington, of Painesville, Vice-President; C. R. Butler, of Cleveland, Recording Secretary; B. F. Robinson, of Cleveland, Corresponding Secretary; F. S. Slosson, of Cleveland, Treasurer.

Drs. B. Strickland, C. Palmer, B. T. Spellman, and W. H. Atkinson are permanent members of the American Dental Association. The present delegates are Drs. C. R. Butler, J. C. Whinery, and A. E. Lyman.

The Kentucky State Dental Association was organized in April, 1860, and meets annually on the second Tuesday of July, at such place as may be appointed. There are twenty-one members in "good standing."

Drs. W. M. Rogers, W. D. Stone, and A. S. Talbert, are members of the American Dental Association.

The present Officers are—Dr. Richard Peckover, of Paris, President; Dr. J. A. McClelland, of Louisville, Vice-President; Dr. Stoddard Driggs, of Lexington, Secretary; Dr. W. G. Redman, of Louisville, Treasurer.

Delegates to the National Association:—Drs. W. G. Red man, Stoddard Driggs, J. A. McClelland, and H. Baldwin.

The Secretary, in speaking of the condition of the Society, says, "Our Society, just at the present time, can not be said to be very flourishing; but 'when this cruel war is over,' we expect to be found among the ardent and industrious." It is proper to observe here, that though this Society is located in a portion of our country that has been overrun by the scourge of war, yet it has not failed to hold its annual meetings, not only in name, but with spirit and interest.

The Western Dental Society was organized in 1856. Has forty members. Meets annually, at such places as the Association may select.

The officers are—Dr. H. E. Peebles, President; Dr. H. Barron, 1st Vice-President; Dr. A. Phillips, 2d Vice-President; Dr. C. W. Spalding, Recording Secretary and Treasurer; Dr. A. M. Leslie, Corresponding Secretary.

Delegate to the American Dental Association:—Dr. C. W. Spalding.

This Society has always been characterized by the unanimity and harmony of its meetings. It has accomplished much good for the profession in the West.

The Brooklyn Dental Association was organized on the 12th day of June, 1862; the membership at first consisting of eight persons. There are now forty active members. In speaking of the condition of the Society, the Secretary remarks: "Since its organization, the Association has held twenty-six meetings; a large majority of its members being present at each meeting. Thirty-five essays have been read before the Society by its members, each one reflecting credit upon its author. At every meeting, a subject or subjects pertaining to the profession have been discussed. Harmony and good feeling exist to that extent, that during the past year there has not been a jarring note among us."

The officers are—Dr. Wm. C. Parks, President; Dr. A. C. Hawes, Vice-President; Dr. Wm. B. Hurd, Secretary.

Last year there were no delegates from this to the National Association.

The present delegates are—Drs. A. A. Wheeler, C. A. Marvin, A. C. Hawes, J. C. Munroe, Wm. B. Hurd, A. W. Allen, G. A. Mills, and J. S. Latimer.

This Society is worthy of emulation, in many respects, and especially in the regularity, frequency and promptness of its meetings.

The Cincinnati Dental Society was formed September 8th, 1858, by the dentists of Cincinnati and vicinity. Its meetings were designed to be monthly; but owing to its proximity to the land of hostilities, and the excitement consequent thereupon, there have been two or three interruptions. Except these, meetings have been held two or three times in each month.

This Society numbers twenty members, nearly all of whom manifest much interest in the Society.

The officers are elected semi-annually, on the first Tuesday of September and March. At present they consist of the following persons, to-wit:

H. A. Smith, President; P. Knowlton, Vice-President; C. H. James, Secretary; H. R. Smith, Treasurer.

The following are permanent members from this Society to the National Association:—Drs. H. R. Smith and J. Taft.

The present delegates are—Drs. S. Wardle, J. G. Cameron, and B. D. Wheeler.

This Society has worked on, quietly and unostentatiously. It has recently published a journal for popular use, to be distributed gratuitously by the members to their patients. It is proposed to issue it quarterly.

It is interesting and important to the members of this Association to know the status and condition of all the organizations heretofore represented in this Body; but perhaps equally if not more interesting to obtain some indications of the future progress and career of this National Society.

We think there are some indications pointing in this direction in the institution of new Societies within the last year.

Since the last meeting of this Body, and notwithstanding the unfavorable circumstances arising from the condition of our country, five new organizations have been effected. Some of these, at least, were influenced to some degree in their formation by this Association. Members of the profession throughout the country begin to appreciate the fact that they

can only enter this Association through local organizations, and that only in a representative capacity, or through this medium can they place themselves in the best possible position in the profession. In regard to the formation of three of these, your committee, in virtue of your appointment, were permitted to act *advisory* and *suggestive.* Your committee have to regret, however, that they have done far less than the importance of the matter demanded.

The Western New York Dental Society was organized in October, 1862, at Rochester, N. Y. There were, at the formation, thirty-eight members.

The following are the officers:—Dr. Charles W. Harvey, of Buffalo, President; Dr. E. F. Wilson, of Rochester, Vice-President; Dr. L. W. Bristol, of Lockport, Secretary; Dr. B. T. Whitney, of Buffalo, Treasurer.

It includes most of the prominent members of the profession in Western New York.

Two meetings are held annually on the first Tuesday in May and October, at such places as the Association may designate. There is active interest exhibited by the members; and doubtless the Association will go on to the full performance of its high trust.

The next organization in point of time is the *Pittsburg Dental Association* of *Western Pennsylvania.* It was formed in February last, with twenty-two members.

The officers are—Dr. James Orr, President; Dr. M. E. Gillespie, Vice-President: Dr. J. D. White, Secretary; Dr. J. Westby, Treasurer.

The delegates to the National Association are—Drs. Chas. Sill, J. Westby, James Orr, J. Vandervort, and J. S. King.

This Society has made an advance step in the establishment of a Dental *Institute* or *Infirmary*, for the treatment of the poor, as well as to subserve the interests of the profession.

This is a movement worthy of imitation wherever circumstances will admit, where members are so situated as to act efficiently. The objects that may be accomplished by such institutions are various and important. They may be the means of great good to those not able otherwise to obtain it.

Cases for *illustration*, *demonstration* and *experiment* may be thus procured. The members of the profession may here meet together, and compare, consult and aid each other, by suggestions upon actual cases that may be presented; in the treatment of diseases, and operations of all kinds.

Such institutions may be used with much efficiency against quackery,—indeed, this would be their legitimate tendency.

The Central New York Dental Association was next organized, on the 23d of last March, with twenty-nine members.

The officers for the year are—Dr. D. S. Ball, of Auburn, President; Dr. D. W. Perkins, of Baldwinsville, Vice-President: Dr. S. B. Palmer, of Tully, Recording Secretary; Dr. A. T. Smith, of Syracuse, Corresponding Secretary; Dr. E. M. Skinner, of Syracuse, Treasurer.

The Society has two regular meetings each year; the annual meeting on the second Tuesday of May, and the semi-annual on the second Tuesday of November.

Odontographic Society of Pennsylvania.—This Society was established in Philadelphia, May 19th, 1863, with the view of promoting professional and social intercourse among dental practitioners, and to encourage a disposition for investigation on their part in every direction which relates to the principles and practice of the profession or collateral sciences; with this object in view, essayists are regularly appointed to prepare dissertations embodying the results of actual experience, observation, research and reflection on such subjects; the papers being read at the monthly meetings, and are then subject matter for discussion on the part of the members.

The memberships are Active, Corresponding, and Honorary. The *active members* consisting of practitioners of dentistry residing in the State of Pennsylvania. The *corresponding members*, of practitioners of dentistry residing in other States of the Union, or in foreign countries, who manifest a disposition to advance the science and art of the profession by contributing to its literature. The *honorary members*, of practitioners of dentistry who have honorably retired from practice; or of medical practitioners or others who have made valuable contributions to the science or art of dentistry.

The *stated meetings* are held on the first Tuesday of each month of the year, at eight o'clock P. M. All the meetings, with the exception of the annual meeting, are devoted *exclusively* to the reading of essays and the discussion of subjects connected with the principles and practice of dentistry and collateral sciences. The recommendation and election of members, and donations to the library, are in order at these meetings, but no other business can be brought forward.

The *Annual meeting* in May, is appropriated to the election of officers, the financial concerns of the Society, receiving reports of committees, and, in general, to such business as does not appertain to the scientific transactions of the Society.

Special meetings may be convened by the President, or at the request of five members.

The *Transactions* of the Society, under the name of the Odontographic Society of *Pennsylvania*, are printed under the supervision of the executive committee.

Newly-elected *active* members, who have paid their initiation fee and annual dues, are presented with the Transactions for the season in which they are elected, and are entitled to a copy each successive year on the payment of their annual dues; but no old member, whose dues are in arrears, or newly-elected member whose initiation fee and annual dues have not been paid, is entitled to the Transactions.

The Transactions are purchasable by all members of the

Society, and others, at their prime cost; and are exchangeable for the Transactions of other Societies.

Although the Society was organized quite recently (within three months), the *active* members already number twenty-seven. The meetings have been regularly attended, and the papers read at them have elicited animated, interesting and instructive discussions. The indications are that the Society will be the means of great good to its members and others.

The officers are as follows:—Dr. Jacob Gilliams, President; Dr. John McCalla, 1st Vice-President; Dr. C. A. Kingsbury, 2d Vice-President; Dr. J. H. McQuillen, Corresponding Secretary; Dr. L. M. Luson, Recording Secretary; Dr. Thomas Wardle, Treasurer; Dr. Wm. P. Henry, Librarian; Drs. J. Foster Flagg, S. R. Scrivens and Wm. Gorges, Executive Committee,

Delegates to the American Dental Association—Drs. Jacob Gilliams, John McCalla, C. A. Kingsbury, Wm. Gorges, Ambler Tees, and W. K. Brenizer.

The Iowa State Dental Association was organized in July, 1863; quite a number of the leading dentists of the State were present and participated in its proceedings.

In this hasty glance at some of the Dental Associations of our country, many and various thoughts and suggestions arise. There may, and doubtless will be, some diversity of opinion, as to the most profitable course to be pursued in the conduct of local Associations. The methods of operation will, to some extent, be modified by circumstances, such as the facility of meeting, the number of members, etc. In regard to the frequency of meeting, it will be seen that in those Associations upon which we have reported, there is quite a diversity,—some hold but one meeting annually; and on the other extreme, some meet once a week, and others at various intermediate periods. In regard to the frequency of meeting, each Society must determine what is best for itself.

In sparsely settled parts of the country, or where the members are scattered over a large scope of country, perhaps not more than from two to six meetings annually would be practicable; while in large cities, once a month, or even once a week, Societies may meet profitably. Always such frequency should be observed as would elicit the greatest interest.

The subject of open or public meetings, is one upon which there has been diversity, in practice at least. Some admit none but actual members, except upon special invitation; others make their meetings free to all their professional brethren who choose to meet with them. Oftentimes physicians are invited; and some make their meetings open to *all* who may desire to attend.

The exclusive feature savors rather too much of selfishness, to say the least; and it certainly does not result in the greatest good to the largest number,—which we think should be the criterion, in this matter.

Especially would it always be desirable and profitable to have the suggestions and opinions of physicians, and particularly in reference to many questions that arise in regard to those things with which they are more familiar. The ultimate efficiency of Dental Associations depends much upon their immediate and prospective permanency, as well as the promptness and uniformity of attendance by the members; a desire for improvement and progress should stimulate to a uniform promptness. But it may be proper to inquire, whether there may not be additional influences brought to bear, to bind men closer together, and to give greater assurance of permanency to such Institutions. We think such additional security exists in the possession of property. Hence we would have every local Society possessed of property, in some form; of course it should be of that character which should be most available in carrying out the objects of the Society. It would very properly consist of libraries, museums, collections of optical, chemical, philosophical, and

mechanical instruments and appliances; indeed, everything that may be employed to aid in the development and advancement of our profession, both in a scientific and artistic aspect.

We would therefore suggest that every Society, as soon as practicable, carry out these suggestions, because of the advantage which is directly derivable therefrom, and also, because character and permanency will thereby be secured.

Another matter to which all Associations should direct their attention, is popular dental education. This is a subject of vastly more importance than is usually attached to it.

We do not propose here to discuss its advantages, nor to specify particulars in carrying out the method; but we will suggest, and indeed urge, that every Society should immediately set about some systematic and efficient method of giving information to the people; the work has already been commenced, though not extensively.

As to how it should be done, various suggestions may arise. Some have issued essays, others are publishing journals; and in many cases, individuals have published fugitive pieces in the current prints of the day.

The subject of Dental Hospitals is one that has elicited some thought and attention.

Our English brethren, some three years ago, established an institution of this kind, from which they hoped much. It is still in operation, but with what measure of success, and what is its present condition, we are not advised.

The "Pittsburg Dental Association" is making an experiment in this direction, and we believe the first in this country. It is to be hoped that other Societies will direct their attention and effort in the same direction.

It is a very gratifying indication, that the profession seems to be reaching out in *new* channels for instrumentalities that shall aid in its progress and development, as well as working in the old.

Though the dental profession has been hitherto marching, with rapid strides, up to that point where it takes rank and

position, fresh and vigorous, with other and older professions, yet a more glorious day seems to be dawning upon it, in which more rapid progress shall be made, when all the resources treasured in nature's storehouse shall be brought forth, and applied. This is our work.

EXTRACTION OF TEETH.

By George W. Ellis, M. D.

In the perusal of the various articles which have from time to time appeared upon this subject, I have remarked the fact that in most cases a generalization of the principles concerned, and practice advocated, have been the main points involved,—the description and elucidation of the minutiæ being almost entirely ignored; and since it is believed that a proper observance of these details is what constitutes the scientific, accomplished and finished operator, I determined to give them a reasonable share of attention, with the hope that although I might fail in presenting anything strikingly new, the remarks offered would prove neither tedious nor entirely uninteresting. The operation of extraction is one the performance of which was formerly confined almost exclusively to an unskillful and uneducated class of operators and although with the organization of a dental profession, and the subsequent rapid advances of its scientific standard, it received an increased share of attention, yet medical practitioners still refuse to attach to it that importance which as a surgical operation it justly merits. This no doubt arises partly from the fact that persons possessing none of the requisite qualifications, with the exception of mere physical force, will, in the majority of instances, prove successful in their efforts for the removal of teeth; yet how unreasonable would it be to depreciate the value and usefulness of medical skill, simply because there are men in the profession

of questionable ability who, in the treatment of disease *generally*, succeed in producing the most desirable results through the agency of their ministrations. Cases, differing widely from those which are met with in the regular routine of daily duties, occasionally present themselves, both in Dental and Medical practice; and it is these which put to test the capacity of a practitioner,—compelling the employment of a large fund of information derived from both study and experience for their correct diagnosis; and in dentistry or surgery, for their successful treatment, call into requisition, in addition to this knowledge, a high order of manipulative ability.

The extraction of teeth is, perhaps, of all surgical operations, the most frequently demanded; and but few individuals attain to the age of maturity without having experienced the disagreeable nature of its anticipation, and the acute pain attendant upon its performance. The familiarity consequent upon this frequency, and the rarity of untoward sequences, engenders in the minds of the medical profession a disposition to under-estimate its importance and deny it the consideration which it should receive,—thus making themselves responsible for the consignment of an important, useful and humane operation to the hands of ignorance and quackery.

If those who place themselves under the care of unskillful pretenders, for the removal of their teeth, could be made to appreciate the numerous risks they thereby incurred, the community would be enlightened, the support of ignorance and deceit withdrawn, and the performance of this branch of surgery directed and confined entirely to the fountain of science and skill; from whence it would flow in balmy currents, carrying comfort and health to the afflicted and diseased.

The charlatans who unauthoritatively oppropriate the title of Dentist,—compelling the profession to bear the approbrium of their misdeeds, and who fail in "clipping out" the teeth as easily as a misguided public is induced to follow such

directions with regard to their deceptive advertisements,—frequently demonstrate to their own chagrin, and the sorrow of the patient, that "a little learning is a dangerous thing."

The ability of an extractor must not be based upon the successful performance of few or many operations, but upon the possession of the following requirements, to-wit: Freeness from timidity, firmness of the hand, sufficient physical force to break up the attachments of a tooth and withdraw it from its socket; a thorough anatomical, physiological and pathological knowledge of the parts concerned; and a manual dexterity, which under such guidance, when judiciously and skillfully employed, will enable him not only to successfully overcome all the immediate indications presented, but also, to meet promptly such anticipated and unlooked-for complications as may afterward arise. These are exactly the qualifications requisite to constitute an able and accomplished surgeon; and it is fair to believe that Extraction, in all its various phases, opens as wide and as fruitful a field for the display of science and skill, as many of the most important operations in surgery; in fact, the steadiness of hand, and delicacy of touch, which are acquired from continued dental manipulation, is so desirable in surgical operations, that I recently heard a surgeon of repute say that he regarded a short experience in dental practice as *invaluable* in giving these most desirable acquirements.

Through the energetic and untiring efforts of those interested in the progress of Dental Science, the various pathological conditions of the teeth, which were formerly regarded as undoubted indications for their sacrifice, are now rendered amenable to proper treatment; and those priceless organs, secured a renewed lease of existence, resume their former mission, and continue to minister to the health, comfort and appearance of their surprised and gratified possessors. This triumph of science has very greatly reduced the aggregate number of teeth yearly extracted; yet the operation is still of quite frequent occurrence, and when necessitated, possesses at the

present time but comparatively few of the horrors with which it was formerly invested,—owing to the introduction of anæsthetics and the substitution of properly adjusted forceps for the awkward and unreliable key of Garengeot.

Notwithstanding all these improvements, the anticipation of extraction occasions more or less apprehension, according to the age and temperament of the individual; and of all operations within the range of dental practice, it continues to be regarded as the most formidable. It therefore becomes the duty of the practitioner, so far as lies in his power, to divest it of the many disagreeable associations with which it is likely to be linked.

It is of the greatest moment, that an operator should possess, in connection with ability, a pleasing and agreeable address; and if conscious of a deficiency in this direction, earnest efforts should be made for its acquirement and cultivation; for nothing will so readily enable him to enlist the confidence and coöperation of an afflicted and suffering patient, as the exhibition of an affable and sympathizing manner. Integrity, as a quality of paramount importance, should be diligently courted and strictly adhered to, in this as in every other transaction of life; for without it, all other accomplishments count but nought; and a man fails to command that respect which, as an able member of a scientific and progressive profession, he should naturally inspire. No one should permit his ambition to overcome difficulties or his impatience to accomplish hastily that which requires deliberation, to lead him into the unpardonable error of misstatement and deception; this is neither commendable nor advantageous; and it not only detracts greatly from that feeling of satisfaction (amounting almost if not quite to happiness) which is invariably experienced upon the successful termination of this most dreaded operation, but it greatly augments the difficulties in case at any future time its repetition becomes necessary. Although it is not desirable to stimulate the already over-excited and apprehensive mind of the pa-

tient, all reasonable questions should be candidly and truthfully answered; such statements will enable him to appreciate the difficulties to be encountered, and summon sufficient courage to meet them with fortitude and endurance.

In the discharge of his duties, an operator is brought in contact with persons widely differing in age, disposition, taste, circumstances, and education; and it becomes necessary for him to appreciate *individual* characteristics, in order to discern these differences, and to possess a degree of adaptiveness sufficient to enable him to so regulate his conduct that it may harmonize with individual peculiarities. This is particularly desirable in the operation of extraction,—the young and timid, or the nervous and debilitated, demanding sympathy, tenderness and forbearance; the willful and self-reliant requiring the exhibition of firmness and decision. It is seldom warrantable to resort to force, which generally tends to defeat rather than advance the object in view. Although circumstances may sometimes arise, necessitating the employment of coercive measures, persuasion will accomplish much more in cases of timidity, be the patient ever so young, and will enlist admiration and affection instead of awakening feelings of hatred and resentment.

After these general remarks touching the importance of Extraction, and the qualifications and conduct of an operator, I propose to consider the subject proper under the three following heads, to-wit: 1st, The indication for the performance of the operation; 2d, The method of procedure, and the instruments required; 3d, The after treatment.

Although the extraction of teeth is much less frequently resorted to, as a curative measure, than was advocated some years back, still many valuable organs continue to be sacrificed from the inability of operators to effect their preservation; and on the contrary, from their timidity, many teeth are retained, the removal of which is clearly demanded.

The various peculiarities which frequently present and exercise their influence upon the judgment, render it im-

possible to prescribe a plan of procedure which shall be universally applicable; yet experience has proven that the exposure of a nerve can seldom be regarded as just cause for the removal of any teeth except the lower Dens Sapientiæ, which, from their inaccessible position and the curvature of their fangs, have so frequently frustrated the efforts of the best practitioners for their treatment and retention, that their removal is now generally advocated; nevertheless the loss of other valuable masticators may render it advisable to secure them; and even without filling, they will sometimes prove serviceable for a number of years. Exostons is a disease which unfortunately locates itself in teeth apparently sound and healthy, as well as in those which are decayed and worthless; and when the pain is intense, extraction is the only means of securing permanent relief. I am aware that operations have been suggested in such cases; but the value of a tooth could scarcely be regarded as compensating for their performance.

Ulcerated teeth and roots, which refuse to yield to treatment, and have implicated or threaten to implicate the surrounding structures, or which are useless either as masticatory organs or in contributing materially to the preservation of the facial contour or the position of other teeth, should be unhesitatingly extracted.

Necrosed teeth, in persons possessing but little recuperative power, should be extracted; in strong and healthy constitutions, however, nature unaided will mostly effect their removal.

It sometimes becomes advisable to extract a tooth, in order to gain direct access to the antrum, for the treatment of diseased conditions therein existing as; in cases of necrosed fangs.

The removal of teeth for the correction of irregularity, and the preparation of the mouth for the reception of artificial dentures, completes the list of conditions calling for the exercise of the extractor's skill.

The location of the cause of trouble is, in some cases, an exceedingly difficult task,—the patient referring the pain to a source sympathetically affected, but entirely innocent of any primary influence. When, however, the origin of difficulty has been satisfactorily determined, and the operation of extraction deemed expedient, the practitioner should proceed with calmness and deliberation, avoiding all unnecessary parade and exhibition of instruments.

Lancing of the gum is a practice, the utility of which has given rise to considerable discussion. I regard it, however, as decidedly advantageous, when any connection exists between that tissue and the tooth; for, without this precaution, extensive and painful laceration of the contiguous parts will frequently occur. The lancet employed should be of good steel, made in the form of a crescent, as thin as consistent with the necessary strength, and given a clean, sharp-cutting edge; the careful use of such an instrument will effect the separation of the gum, with so little pain as seldom to be remarked.

The manner of withdrawing a tooth from the socket, after its seizure with the forceps, is a matter of no minor importance; and it is most probable that the greater number of failures result not so much from poorly-adapted instruments as from the employment of force in an improper *direction*, or in an improper *manner*. In the adjustment of the forceps, they should be carried up until they come in contact with the alveolar border, and if possible *a little farther;* the tooth should be grasped so firmly as to prevent the rocking or rotary motion of the instrument upon its surface, but not so hard as to endanger its fracture. The degree of force which will be tolerated, can be appreciated only by practice; it varies greatly in different cases, and may be determined by the complexion and general conformation of the tooth. Some advocate hasty extraction, upon the ground that an operation of so disagreeable a nature should not be unnecessarily prolonged; this I think, however, a poor argument in

its favor, when we take into consideration the many dangers incurred by the adoption and employment of such a policy. The slow and deliberate removal of a tooth, not only greatly diminishes the chances of any disagreeable sequences, but occasions much less pain than a careless and hurried operation—a fact frequently testified to by patients. The remark that "all operations are performed sufficiently quick which are performed well," is particularly applicable to extraction; and no better directions, with regard to the rapidity of its performance can be found, than is given by Dr. Taft in his excellent work on Operative Dentistry, where he says, that "a very good criterion is, that the eye should critically follow and the mind attentively comprehend every movement of the hand and instrument."

A description of all the patterns of forceps which have been used, would be an endless task. I shall refer, therefore, only to those which I regard as the most desirable and useful. It is important that forceps should be so constructed as to secure a good adaptation to the teeth whose removal they are intended to effect; the handles should be formed as plainly as possible, since all ornamental additions in the way of curves only render the instrument more awkward and cumbersome, without in the least increasing its efficiency. The same forceps answers for the removal of the superior incisors, canines and bicuspids, and the inferior canines; they are straight,—the beaks being oval in form, concave on the inner surfaces, broad and sharp at the edges, and represent, internally, a cone with the apex at the point; the tendency of such a formation being to force the tooth from its socket simply by the closure of the instrument. In extracting the lower canines, forceps having the beaks at an angle of forty-five degrees with the shaft, yet preserving the internal conical form, are sometimes preferable; such instruments, when closed, should have the labial beak enough shorter than the inner one, to permit their being on the same horizontal line when opened sufficiently wide to grasp a tooth or root.

These forceps are also employed for the removal of lower bicuspids and incisors; for the latter, however, an instrument having the beaks upon a parallel line with the handles, I generally prefer; there is a double turn, in order that the handle may not impinge upon nor injure the teeth or lip above; in consequence of which, the same peculiarity, with regard to the unequal length of the beaks, is rendered necessary. The force employed for the removal of the upper incisors and the four canines, is a rotary motion combined with perpendicular traction, while the lower incisors and the bicuspids are extracted by an antero-posterior rocking motion in connection with the latter force. For the extraction of the first and second upper molars, I generally employ a straight instrument which answers for either side; the palatine beak is concave and rounded at the edge, while the buccal beak has a small projection in the center designed to pass into the groove formed by the junction of the buccal roots. In the cowhorn forceps, as they are termed, this beak is shaped like a cow's horn—hence its name—and is intended to pass directly between the buccal roots; this is, in some cases, a very valuable instrument, but, in a majority of instances, I prefer the former. For the removal of the upper dens sapientiæ, I employ forceps of the letter S curve, with simple concave beaks. The force necessary for the extraction of upper molars should be exerted in a downward and *outward* direction. In the extraction of the first and second lower molars, I confine myself almost exclusively to forceps which have the beaks turned at an angle with the handles, their internal surfaces plain, terminating in small projecting central points, so that when adjusted, the handles present at the side of the mouth, the same instrument being manipulated upon either side; the formation of the beaks is such that their accurate adjustment, followed by a slight rocking motion *upon* the tooth, accompanied with *downward* pressure, will seldom fail to effect its removal with much less effort and greater certainty than when instruments of a different construction are em-

ployed. The remaining tooth of the lower jaw, the dens sapientiæ, is, from the frequent failure of attempts for its removal, generally regarded as the most difficult tooth in the mouth to extract; this difficulty arises, however, mainly from the want of properly-constructed instruments; the possession of which at once transforms it into an easy and simple operation. The Flagg forceps are employed, whenever the arch is perfect or easily rendered contiguous by the introduction of a wedge, and the tooth to be extracted has the crown or the anterior portion of it still remaining; these forceps have the beaks turned nearly at a right-angle with the shaft; they are sharp at the ends. the blades closing laterally, one over the other, thus acting as a double wedge and forcing the tooth backward. The Physick forceps are equally useful and reliable for the removal of these teeth; their blades are at an angle of forty-five degrees with the handles, and are beveled toward the inner edge, acting, like the Flagg forceps, upon the principle of a wedge; they are invaluable for the removal of lower dens sapientiæ roots, when by accident or decay the crown has been lost. These two instruments break up the attachments and throw the tooth backward, so that it may often be withdrawn from the mouth by means of the thumb and finger alone. The force employed for the removal of these teeth, should be directed upward and backward.

After this summary upon the extraction of *teeth*, I woul d devote a few lines to the more difficult branch, to-wit: the extraction of roots. The necessity of a thorough anatomical knowledge is perhaps most frequently demonstrated in this branch of the operation; for here, there is no protruding crown serving as an index to the character of the roots, or offering a means for their easy removal; on the contrary, a portion of root is sometimes so far below the edge of the alveolus, that only the most delicate probing will discover its position, and the most skillful manipulation effect its dislodgment.

The different sensations communicated to the touch by scratching with a probe upon root and bone, are readily dis-

cerned by practice; the capability of making this distinction is a valuable acquisition for an extractor, without which his operations will be devoid of system in their performance, or certainty in their results.

Various appliances have been invented for the extraction of difficult roots; the most useful of which are the forceps, the elevator, and the screw. The forceps are, in the majority of cases, the most reliable instruments; they should be formed sufficiently delicate to permit their ready introduction into the alveolus, yet strong enough to prevent their springing when firmly closed upon a root.

In the removal of fangs, a rotary or rocking motion is employed, according to their round or flattened form; and no attempt should ever be exerted for their withdrawal, until every effort has been made to ascertain the form, position, and various peculiarities of the case,—since such an examination will often avoid the annoying consciousness of unjustifiable failure.

The elevator is, in some cases, a very valuable instrument, requiring, in its management, the greatest skill and care to avoid injury to the surrounding parts.

Never having had occasion to use the screw, I can only speak the experience of others who have tested it and pronounced it, under certain circumstances, a very efficacious instrument.

There are various difficulties, and sometimes quite serious obstacles, which may present and tax the skill and ingenuity of an operator,—as such, may be mentioned the undue convergence, divergence or curvature of fangs, and exostosis. In cases where the fangs occupy such unfavorable positions for removal, it becomes necessary to devise some means to overcome the difficulty and facilitate the operation. The method usually employed, is to separate the fangs at their junction by means of cutting forceps, and extract each in a line corresponding with the axis of its canal. The trouble occasioned by exostosis or curvature of the fangs, is not often so readily remedied; on the contrary, removal of one or both

alveolar plates is frequently found necessary, before such abnormally-formed roots can be extracted.

After the completion of the operation, the duty of the practitioner will, in the majority of cases, cease; and nature alone will prove herself adequate to the restoration of the wounded tissues; yet when, from extensive laceration of the parts, dangerous sloughing is threatened, or from a hemorrhagic diathesis serious loss of blood is anticipated, the indications should be met upon general principles,—the duty devolving not upon the physician but the dentist; and he who proves himself unequal to its discharge, is incompetent and undeserving the title which he appropriates.

After the extraction of a tooth, violent rinsing of the mouth should be prohibited, the patient maintained in a quiet position, and every means taken to favor the formation of the clot, since its absence leaves a large cavity which is very tardy in healing and serves as a receptacle for the accumulation and decomposition of food, occasioning much annoyance and discomfort. When, however, these means fail, and the difficulty is attributable to a deficiency of coagulability in the blood, some constitutional remedy calculated to promote this property should be administered; and after a scarification of the internal surface of the cavity to occasion bleeding, means should be taken by mechanical appliances to secure the retention of the fluid until solidification has taken place. The function of the clot in such wounds, is a subject which has given rise to considerable discussion among pathologists; yet, whatever view be entertained, experience has proven its presence highly desirable in the alveolus after the removal of a tooth, in avoiding the annoyance referred to and contributing to a more speedy reparation.

Cases of obstinate and persistent hemorrhage must be combated by both local and constitutional remedies,—the various mechanical adjuncts with which almost all are familiar, it is unnecessary to enumerate,—but with regard to the systemic treatment, there exists great diversity; and I would

simply direct attention to a remedy which I was induced to try, through its strong advocacy by a medical friend, and which I have found, in cases of hemorrhage, a valuable and reliable agent: I refer to the tincture or oil of Erigeron Canadensis, which may be exhibited in small doses, frequently repeated, until coagulation ensues. I have *never* had it fail, and would urge it upon the notice of those interested in this subject.

These remarks, which have now reached a greater length than I had intended, are submitted merely as an outline of ordinary every-day practice in the department of extraction. And although the forceps described will be found probably the most frequently employed, their number will necessarily be considerably increased by the addition of forms calculated to meet the various abnormities which, in the discharge of professional duties, are invariably encountered.

The performance of the operation, and its after management, are calculated to draw largely upon the mental and physical attainments; and it is earnestly hoped that time may purge the profession of the incompetency which has retarded its progress, and enable those qualified and interested to make and preserve for it an untarnished record.

REPORT OF COMMITTEE ON DENTAL EDUCATION.

BY G. W. ELLIS, CHAIRMAN.

The appointment of committees, consisting of two, three or more members, to insure a thorough and comparative consideration of subjects which may be deemed of importance by this Organization, constitutes, perhaps, one of its most fruitful channels for the acquisition of interesting and valuable matter,—presenting, as it does, in compact and clear form a harmonized digest of combined experience, reflection and suggestion. The Committee on Dental Education, recognizing this fact, had resolved to give its alloted subject the atten-

tion which, as the ground-work of a scientific profession, it undoubtedly merits. Impressed, however, with the belief that a reasonable postponement in the preparation of a report might secure the embodiment of some valuable and recently-developed facts, it was led to omit any efforts in this direction, until the occurrence of the recent military "reverses" (then regarded, but fortunately transformed into "successes") which led to the invasion and desolation of a portion of our State, and a threatened demonstration upon our city, so disturbed the equilibrium of the community and diverted the attention from legitimate pursuits, that upon the subsidence of excitement the Committee found that they had fallen an easy prey to the "thief of time." Unable, therefore, to accomplish the preparation of an elaborate report, the following remarks are designed to embrace but a few of the most prominent features of the subject:

The history of dental education, from the time of its infancy, the improvements and discoveries of each succeeding year, and consequent advanced standard of dental requirements—resulting in the establishment of Colleges, and the conferment of degrees—is familiar to all; yet a careful examination of the details and practical workings of this system, with its advantages and defects, fall within our province.

No lover of his profession, who looks upon the past and compares it with the present, can fail to view with pride the elevated position which dentistry has attained. Its ranks are now filled with men of education and high scientific attainments, who demand and receive for it the respect and recognition which the medical profession so long refused to accord.

The character of a profession is dependent upon, and regulated by, the nature of the instructions imparted to students; and since this is the mould in which our reputation as a body is cast, it behooves us to labor assiduously for the removal of all its imperfections, and the production of a clean, bright unblemished surface which shall bring forth a model of beautiful proportions and dazzling brightness.

The student was at first obliged to depend mainly upon his own efforts, somewhat assisted by a preceptor whose teachings (in consequence of other more pressing demands upon his attention) assumed no system, but consisted chiefly in the answering of questions and the impartation of isolated facts. Taking into consideration, that at that day the practitioner's knowledge would compare very unfavorably with his information at the present time, we can wonder but little that progress was slow through the agency of such instructions.

A thirst for knowledge, a recognition of the great demands upon their efforts, and a consciousness of the unhidden treasures, stimulated some enterprising minds to institute laborious investigations; the influence of which was quickly made manifest, in the awakening of an enterprising and energetic spirit, resulting in the establishment of Dental Colleges as affording the most desirable method for instructing and directing the efforts of the beginner.

Notwithstanding the facilities for, and the incalculable advantages derived from, a collegiate course, the attendance upon our schools—taking into consideration the large number of annual additions to the profession—is exceedingly limited, amounting to but little over one-tenth of the number, which has been estimated at quite or more than five hundred, Whether this is owing to the existence of palpable defects in the school system, or whether private preceptorship has been deemed all-sufficient, it is difficult to say; but it has been determined by those best qualified to judge, that the highest attainments can be guaranteed by a properly-managed combination of the two methods. There are undoubtedly many preceptors who strive to fulfill, in every respect, the obligations due their students, the profession and the community, by qualifying the former, so far as lies in their power, for the responsible duties which they are expected to discharge. This, however, from the present status of the profession, is insufficient, and should be combined with attendance upon a course of dental lectures.

Our profession is not merely a mechanical calling; and the good manipulator demands but little respect, if he has not the scientific acquirement wherewith to direct and regulate his skill, and his ability, like a staunch and seaworthy barque without a helm, is practically useless. A dentist has to deal with living tissues, and the instructions from a college are designed to acquaint him with their anatomy, physiology, hygiene and pathology, and should be sufficiently thorough to enable him to appreciate and successfully combat constitutional conditions sympathetically affecting the teeth, which would probably escape the notice of one not possessed of a *thorough* scientific education.

After having advanced these points in relation to the most desirable channel for obtaining a complete and creditable dental knowledge, we would treat, quite summarily, of the duties of a college, the duties of a preceptor, and the duties of a student.

Under the present collegiate arrangement, there are instructions given upon anatomy, physiology, pathology, operative dentistry, mechanical dentistry, and chemistry. This information is imparted by lectures from the incumbents of the various Chairs, illustrated by specimens, models, and dia grams. The advantages of teaching by lectures has been fully canvassed, admitted to be the most desirable, and universally adopted by the medical schools both here and in Europe; it offers in few words to the comprehension of a student, that which would otherwise require long and tedious reading. The best works upon the various subjects are employed as text-books for reference,—thus confirming, recalling and impressing what has already been learned.

The clinics offer the advantage of practically demonstrating that which had been theoretically acquired, both in the operative and mechanical departments. They are in the charge of demonstrators, under whose supervision the student acquires confidence by operating, and is enabled to make application of that information which he has gained.

In addition to these advantages, there are numerous dissecting rooms in large cities, where he may acquire a thorough knowledge of the tissues of the head and face. Such method of study is invaluable, and offers something tangible which the memory may embrace.

The qualifications for graduation require a good moral character, attainment to the age of maturity, two years' private tuition, two full courses of lectures—one of which may have been in a respectable medical college, or what is equivalent, five years' practice in dentistry—the presentation of a thesis upon some dental subject, the deposit of a specimen of mechanical dentistry in the museum, demonstration of ability in both the operative and mechanical departments, and possession of information sufficient to pass a creditable examination before the faculty.

In requiring of the student a practical demonstration of his ability, the dental are in advance of the medical colleges in this country where no such examinations are demanded. In most of the medical schools in Europe, however, a patient is presented before the candidate, who is required to diagnose the disease and give the treatment indicated. There, also, the possession of a degree is rendered obligatory by law before entering upon the practice of medicine. This latter reformation might be advantageously exercised in relation to dentistry, which is already overcrowded with ignorance and charlatanism.

A history of the various dental colleges would, no doubt, be very interesting, and properly in place; yet time forbids any such detail. Several, after a short course, have expired; and those now in operation, are the Baltimore College of Dental Surgery, Ohio Dental College, Pennsylvania College of Dental Surgery, and Philadelphia Dental College,—the latter having been chartered at the recent session of the Legislature, is now organized and the announcement has come to hand. Philadelphia having been chosen as the location for two schools, we may reasonably hope that such

healthy competition will be engendered as may prove conducive to an increased development of the resources of our specialty.

A practitioner of dentistry, in assuming the relation of preceptor, should be fully alive to the many responsibilities which the position entails, and refuse to act in such a capacity, unless satisfied that his other duties will admit of its faithful discharge.

A good English education is a primary requisite for the commencement of dental studies; without which, an aspirant for professional honors will be retarded if not wholly defeated in his endeavors; and even if successful, must re-commence his education or prove an inferior and neglected member of the circle in which he would desire to mingle upon terms of equality and familiarity. It is the province, therefore, of a practitioner who observes this defect, to advise a continuation of scholastic duties. When a pupil presents with respectable attainments, and the relation between preceptor and student is established, it becomes the duty of the former to carefully watch over and guard the development of his professional character, and prevent the inculcation of erroneous ideas, just as an anxious mother would watch the moral development of her child. It is his duty to afford him every facility and direction in relation to mechanical dentistry, to improve every favorable opportunity for allowing him to *witness* and execute in the operative department, and, above all, to conduct toward him with an encouraging demeanor, and never permit irritability or impatience to condemn the efforts of the novice; for an ill-timed, discouraging word will frequently dampen the ardor and cause a void where all seemed bright and encouraging. It is the duty of the preceptor to direct his student in the purchase and perusal of the various works pertaining to his profession, to advise him in the choice of an Institution for the acquisition of scientific information, and, from time to time, institute an examination in order to discover his weak points, and enter into an explanation when

necessary to strengthen them—to impart new ideas and correct false ones. Such assistance will prevent the formation of many erroneous impressions, which, when the student is left to his own resources, are very easily acquired but with difficulty eradicated. Such a course will enable a preceptor to secure to his profession and the community a valuable member, the consciousness of which fact alone should be an enviable reward.

A student, on entering upon his course of study, should start with a firm resolve to master the profession of his choice, and labor assiduously and diligently for the attainment of that object. No favorable opportunity for improvement should be allowed to pass; and above all, must he guard against that languor and laziness which a sedentary life is liable to produce. An over-estimate of one's ability, or the reverse, a want of self-confidence, are both traits calculated to retard his progress. When he has completed his collegiate course, and obtained the certificate of its successful termination, he has not finished his professional education; on the contrary, he has only laid a firm foundation upon which he must continue to build. He must not content himself to remain in mediocrity, or permit himself to sink into insignificance; but struggle on, with the energy and perseverance of pupilage, that he may reflect credit on himself, prove an ornament to his profession, and an able comforter to afflicted humanity.

It is a duty that a practitioner owes the community in which he dwells, to keep himself thoroughly informed upon all matters of interest pertaining to his profession; and the many well-conducted dental journals offer the most desirable medium for obtaining this knowledge. Their regular consultation, by acquainting him with the various discoveries, improvements and changes, both in theory and practice, enables him to keep pace with the times, and avoid the danger of becoming an antiquated routinist.

In conclusion, we would notice and commend the flourish-

ing state of dental journalism; and last, though not least, would congratulate the profession upon their associated efforts, as eliciting much valuable information, and promoting feelings of sociality and fellowship.

GEO. W. ELLIS, *Chairman.*

DENTAL LITERATURE.

Report of the Committee on Dental Literature, submitted by

J. H. MCQUILLEN, D. D. S., Chairman.

In presenting a report on Dental Literature, at this time, it may not be amiss to direct attention to the fact that the rebellion, which has been so destructive of *life*, *comfort* and *happiness* to thousands of our fellow-countrymen, has very naturally exercised a paralyzing influence on the dental as well as the general literature of the country. War *never* invites to literary pursuits, but invariably opposes and interferes with them; and this holds, with peculiar force, in a struggle where there are such mighty *issues of weal* or *woe* to the present or future generations involved, that as each day brings its tidings of success or reverse to the good cause, it is almost a matter of impossibility for those who are *alive to their own rights* or *the rights of others*, to effect that *concentration* of mind which is demanded to secure desirable and reliable results from scientific investigation, or the prosecution of literary labors.

In illustration of the truth of this assertion, it is only necessary to direct attention to the fact that but one addition (if even this can be regarded in that light) has been made by an American author to the text-books of the profession since the commencement of our National troubles; and this will appear still more conclusive, when it is known that arrangements were entered into between certain authors and publishers for the issue of two or more works, a short

time prior to the breaking out of the rebellion, which, as yet, have not made their appearance. That this delay has been, to a great extent, due to the causes named is a fair inference.

The work referred to as having been published, is styled A PRACTICAL TREATISE ON DENTAL MEDICINE.—Being a Compendium of Medical Science as connected with the study of Dental Surgery: By THOMAS E. BOND, A. M., M. D, *Professor of Special Pathology and Therapeutics, in the Baltimore College of Dental Surgery.* Philadelphia: Lindsay & Blakiston. 1863.

Although this can not be regarded strictly in the light of an entirely new work, the fact of its being the third edition, revised, corrected and enlarged, brings it almost within that scope. As its title indicates, the work is intended as a *compendium;* and while in many respects it is quite valuable, it is open to exceptions—from the fact that some of the most important points to the dental practitioner are not touched upon at all, and others are passed over with far less attention than their claims sanction. In addition to this, the views presented on dental caries are not only extremely meagre, (embracing *half a page* of printed matter), but in support of a theory—chemical decomposition exclusively—which finds but few advocates at the present day. The author unquestionably has the right to maintain and advance the view most satisfactory to his own mind; but in a text-book intended for students, it would have been just and proper to have directed attention to the *chemico-vital* and other theories, and offered such objections to them as he might entertain. While the work, therefore, in many respects has decided merit, there can be no qnestion that there is room for improvement in several essential particulars.

It is a matter of regret, indeed, that such an important department as the one which this work is intended to illustrate, has not, *long since*, called forth an effort from a dental practitioner. It is not to be expected that those who have never been engaged in the daily practice of the profession

can fully appreciate the wants, or furnish the information required, as efficiently as the thoroughly-educated and experienced dentist could do. It is to be trusted, however, that in addition to the valuable works of Harris, Tomes, Taft, and Richardson, that the day is not *far distant* when not only the void indicated will be filled, but that in addition our libraries will contain numerous standard works of reference, written by dental practitioners, in all the departments which at present constitute the curriculum of dental studies.

The same causes which have affected the preparation and publication of elaborate treatises, has, to a more limited extent, interfered with the periodical literature of the profession, up to within the past year. The number of contributions sensibly decreased, and some of the magazines have been quite irregular in their issue; but, when making due allowance for the peculiar influences against which they have had to contend, there is reason for congratulation that so much has been accomplished. And while it must be candidly admitted that there are many defects which could and should be remedied, there can be no question that our periodical literature acts as one of the most powerful auxiliaries to regularly *constituted associations*, in inducing *liberality* of *sentiment*, the *cultivation* of *science*, and the *improvement* of *art*, by giving that prominence and attention to practical subjects which their utility and importance demand, and by presenting, in addition, to the fullest extent, the scientific basis which underlies *sound practice.*

The following magazines constitute the periodical literature of the profession in this country. They are named in the order in which they were established:

Dental Register of the West—monthly.—Edited by Drs. J. Taft and Geo. Watt. Published by Dr. J. Taft, Cincinnati.

Dental Cosmos—monthly.—Edited by Drs. J. D. White, J. H. McQuillen and Geo. J. Zeigler. Published by Dr. S. S. White, Philadelphia.

The Vulcanite—quarterly.—Edited by Dr. B. W. Franklin. Published by the Hard Rubber Company, New York.

New York Dental Journal—semi-annual.—Edited by Dr. W. B. Roberts and Frank H. Norton. Dr. W. B. Roberts, Publisher, New York.

The above, as is well-known, have been in existence for several years. In addition to these, the following have made their appearance within the past year or two:

Dental Quarterly—Edited by Dr. Ambler Tees; published by Johnson and Lund, Philadelphia. This has been a medium through which Dr. Tees and others have contributed several highly creditable articles.

The People's Dental Journal—Edited and published by Dr. W. W. Allport and S. F. Creighton. Although this magazine is intended mainly to circulate, as its name suggests, among the people, articles are presented eminently interesting and instructive to the practitioner. The design of the editors, as expressed in the salutatory, is commendable, to-wit: "That a journal of this kind, even apart from the useful knowledge it may convey, may, in its periodical visits to the family circle, act as a faithful though silent monitor, to call attention to the practical matters of sound and beautiful teeth, which all are ready enough to admit the importance of, and yet but too prone to neglect."

The Dental Times—a quarterly journal of Dental Science. —Edited and published by the Faculty of the Pennsylvania College of Dental Surgery, Philadelphia. The first number of this magazine has just been published, and presents a fair table of contents, calculated to be of service to the profession generally. There is *room* enough and *need* for all that can be done in behalf of dental education and dental literature. The field is large, to a great extent uncultivated, and capable of yielding an abundant harvest. The more avenues, therefore, that are opened, whether they be colleges or magazines, by which light and knowledge shall be diffused, the better.

Passing from the consideration of dental journals as individually constituted, it will be proper to state that while a large portion of the contributions to our magazines will bear a favorable comparison with cotemporary efforts in other fields of science, it may be asked—are not communications sometimes presented which a due regard for the reputation of the writers at least should have prevented the editors publishing? Every one who takes it upon himself to write with the view of publication, ought to have *one* of *two* objects in view, to-wit: teaching others something which is entirely *new to them;* or presenting old facts and ideas in a more *clear*, *comprehensive*, and attractive manner than they have been offered before. Articles in which neither of these ends is attained to any great degree, may pass without comment if they are correctly written; but communications devoid of *instruction* or interest, and embodying erroneous views of theory or practice, very naturally excite unmeasured condemnation on the part of those most deeply interested in the advancement of dental education and literature. It may be said that the publication of these articles will be an incentive to exertion and improvement on the part of such writers, and that those whose efforts are most unpromising in the beginning may in the course of time become finished writers. Such may be the case in some instances; but it would be far better for the writer and the profession, if editors, acting the part of judicious friends, would, when such articles come into their hands, suggest in a quiet way, the propriety of making such modifications as may be demanded to secure a clear comprehension of the subject; or when there is a manifest ignorance of the theme treated of, to advise the propriety of delaying the publication of the communication with the view of revision, correction, and improvement,—indicating, at the same time, the directions in which to find reliable information,—so as to correct the erroneous views entertained by the writer. Delicate as such an undertaking unquestionably is, there can be no doubt that it might be managed in

such a manner as not only to avoid wounding the sensibilities of the writer, but at the same time to secure his respect and esteem.

Editors who adopt such a course, would only be performing faithfully their bounden duty to the profession and the magazines with which they may be connected; and no personal considerations should deter them from discharging such obligations.

Occasional defects will be noticeable in the contributions of the most careful and exact writers, and allowance of course can be made for such mistakes,—the general tenor of the communications proving that they are not due to ignorance. Such things are liable to occur to any one, and only demand careful attention on the part of printers and proof-readers, with whom, indeed, the mistakes on the printed page sometimes originate. The defects referred to as demanding serious attention, originate directly or indirectly in four primary causes: "1st, Imperfect preliminary education; 2d, The absence of a clear and definite perception of the fundamental principles of physiology and pathology; 3d, Defective modes of investigation; 4th, Too much haste in the preparation of matter for the press."

The course by which the first of these can alone be overcome, is to enter at once upon the most decided and continuous efforts toward self-culture; for it does not follow because one has been denied early educational advantages, that the want of such training can not, to a great extent, be remedied. Some of the most eminent writers in the world received no regular education, but were entirely indebted for the knowledge they possessed to their own unassisted efforts. Under any system of education, *few persons have been taught to any purpose who have not been their own teachers.* Such a work as this can not be effected in a day, a week, a month, or a year, but it must be the prolonged effort of a lifetime. It does not require, however, a sacrifice of all ease and pleasure, but demands steady and unflinching perseverance, devotion,

and concentration of purpose, to take advantage of the odd moments that occur with every one, and which the mass of the world regard as time they know not what to do with. Very few persons, unfortunately however, have sufficient confidence to recommence their education. Such objections as—it requires too much exertion, takes too much time, does not pay, interferes too much with ease and pleasure, it is impossible, etc., are urged; and men, naturally averse to such exertions, satisfy themselves and intimidate the industry of others, by calling that *impossible* which is only *difficult.*

In the effort at self-culture in addition to the acquisition of knowledge in all directions, the importance of a thorough mastery over language should ever be borne in remembrance; for, in order that dental literature may bear a *rigid* comparison with the highest literary standard of other professions, and that the observations presented for consideration may be *perfectly understood*, proper attention must be paid to the language in which the thoughts are clothed. The aim should be to make the medium through which they are conveyed as clear and transparent as the air we breathe. This, however, is not to be accomplished by adopting a *stilted* or *affected style*, or the employment of ambiguous terms, but by using the words best calculated to leave no doubt in the mind of the reader as to the meaning of the writer. The fewer words and the more correct and exact their use, the better for the writer and his readers. The importance of a thorough mastery of language can not therefore be too highly estimated or insisted upon; for, in the words of Dean Trench, "Language is the amber in which a thousand precious thoughts have been safely imbedded and preserved. It has arrested ten thousand lightning flashes of genius, which, unless thus fixed and arrested, might have been as bright, but would also have been as quickly passing and perishing as lightning. Words convey the mental treasures of one period to the generations that follow; and laden with this their precious freight, they sail safely across the gulf of time in which empires have

suffered shipwreck, and the languages of common life have sunk into oblivion."

To acquire knowledge, is one thing; to present it in a clear and comprehensive manner to others, is an entirely different one; for books can not teach the use of books. A man may be a perfect walking encyclopedia, familiar with every variety of human knowledge and every mode of expression, and yet be unable to benefit the world one jot, as a writer,—from the fact that he has not trained himself, by long-continued practice, to the difficult art of composition. Indeed, the most exact use of the medium, language, by which man holds communion with his fellow-man, is inadequate to convey the plainest thought *exactly* as it is in the mind of the writer. It can only be what it really is, *suggestive*, in the hands of the best. What must it be, then, with those who make no effort to cultivate an extended acquaintance with it!

There is a general impression, that to write easily and fluently is no difficult matter; and, particularly, that those passages which have charmed the world generally, on account of their truthfulness and felicity of expression, have been thrown off with little or no effort. Let such persons make the attempt themselves, and they will become better judges; or, turn to the records of the past, and there find what a rigid discipline those, whose productions have been handed down from age to age, subjected themselves to. Instance upon instance could be presented in support of the fact that all good writers have fully recognized, that, to secure an approximation to an *exact* description of things, or expression of thought, it is necessary "to labor and to wait."

The facts already referred to, justify the assertion that he who believes himself called upon to publish his thoughts, can not be too careful with regard to the medium employed, if he desires to be comprehended by others. To accomplish this, he must subject himself to the rigid discipline to which the best minds have submitted, and then publish only when con-

vinced he has *something* to publish,—caring not for the reward that may follow, but only for the *truth* of his publication. By constant, unremitted practice, the capability of expression will become more easy, and the sphere of usefulness more expanded.

The absence of clear and definite perceptions of the fundamental principles of physiology and pathology, can be best remedied by careful study of good text-books, combined with attendance upon the entire curriculum of instruction in the Dental Colleges. Through these, and engaging energetically in *self-culture*, defective modes of investigation will be best overcome. Too much haste in the preparation of matter for the press, should receive due attention from writers and editors; a *careful* revision of the articles, either before or after going to the press, will enable the auther or editor to notice and remedy inaccuracies which had escaped attention before.

One great fault in writers, as with every one else, is to be constantly deferring the performance of duties. They have, however, this just excuse, that one can not write at all times. In place of waiting until a sufficient length of time can be obtained to enter upon and finish a given subject, it is far better to jot down thoughts and the results of experiments and observations, when first presented to the mind. By placing them on record, they can readily be used when wanted; but if this is neglected, they may escape the memory and never be recalled. With this object in view, it is well to have the necessary appliances always at hand—a lead pencil and small portfolio just large enough to hold a few gold-leaf books, to be carried in the pocket, are all that is demanded; and with these, whether at home or abroad, walking in the country or traveling in steamboat or cars, the objects presented, and the thoughts which come to every one, but are so often unattended to, can be preserved.

One thing in particular should ever be borne in remembrance,—that in advancing views which possibly may be dis-

puted, it is better to avoid, in writing, the employment of *positive assertions.* Nothing, perhaps, has tended more to retard the progress of science, and provoke *personal* discussions, than the positiveness of pseudo-scientific men. By offering even that which we feel pretty well assured is unquestionable, in a *suggestive* manner, it is less likely to provoke opposition, and may win ready adoption; and if it should prove untenable, one is spared the mortification and humiliation that attend the complete retraction of a positive assertion.

In conclusion, an association such as this, resting upon a representative basis, if properly conducted must of necessity exercise a powerful influence in elevating the educational and literary standard of our profession. Depending, as its existence, vitality and perpetuity do, upon delegates regularly elected from local Societies, this organization, in turn, must infuse new life and activity in the State and county Societies already established, and ere long will induce the formation of additional Associations, until no section of the country will be left unrepresented at our annual gatherings.

It has sometimes been asked, in a captious tone, "What has the American Dental Association accomplished? what, indeed, has been effected by each and all of our Dental Societies?" Not merely have such queries been made, but the response which they were intended to secure has been embodied in the assertion, on the part of the interrogators, that the American Dental Association, at least, has accomplished nothing—accompanying this with the gratuitous prediction of its speedy and final dissolution,—the wish being father to the thought. It is evident, however, that such persons do not fully understand the objects of this Association, or the temper of its members; and have no just appreciation of the effects of moral power, or of the stern, persevering efforts of men, who, engaged in a great and noble cause, recognizing no such word as *fail*, and therefore determined on success, are intimidated by no obstacles; and, yielding nothing of

principle to any reverses of fortune, are willing to trust their cause to time, the arbiter which tries all things, proves all things.

Using a figure employed on a former occasion—"their progress at first may be slow, to the timid and irresolute discouraging; but in each successive year they will gain a firmer hold on the omnipotence of public opinion, until, like an avalanche, they will sweep from their path every obstacle to their onward march."

The Association is still young; and, from its origin up to the present moment, has had many obstacles to contend with in the struggle for existence,—trials, indeed, which have wrecked many organizations that seemed to be firmly established. The mere fact, therefore, of maintaining its existence in times like these, is significant and conclusive evidence of the ultimate success and perpetuity of the Society. Who, when he looks round upon a gathering like the present, composed of highly intelligent and respectable practitioners, representatives from local Societies situated many hundred miles apart, can have any doubt of this, or of the fact that on leaving here, these representatives will carry to their distant homes a purer love for their profession, a more earnest zeal for its elevation and usefulness, and a clearer, nobler view of its ultimate destiny.

INSTITUTES OF DENTAL SCIENCE.

Read before the American Dental Association,

By W. H. Atkinson, M. D.

In dentistry, as in all else that involves a community of knowledge and practice, really representative men are extremely scarce. The immense aggregations of basal principles of seemingly remote and disconnected departments of science, which focalize in the principles and practice of dentistry, actually constitute the whole range of mechanics,

physics and metaphysics. So that he who shall truly represent the institutes of dental science, must be the embodiment of fact and philosophy throughout the domain of organic living forces and the unseen (so called) laws of dynamics.

In view of this statement, is it not evident that we need an entirely new revelation of textual teachings, taken from all the departments of anatomy with its sequential sciences of physiology, pathology, chemistry, etc., etc.?

We are told by the wiseacres of our Body, that there is abundance already upon the record to afford us all the light necessary to a scientific rendering of service in answering the queries and needs of our patients, and those who desire to be instructed how they may avoid the necessity of demanding our practical services. But these same boastedly well-posted, dignified asserters of the abundance of recorded answers to these important inquiries are as lame as the more humble among us, when put to the test of proving what they assert with such confidence.

When such men as Todd, Bowman, Tomes, Brown-Sequard, Rokistansky, and all the great lights in physical science, deign to revise and modify their best works, even to mutilation to such a degree as to very much reduce the value of their former writings and labors, what shall we not say of the crudities that have formerly passed for institutes to guide us in our enhanced and arduous scientific professional labors?

Much as we owe to Hunter, Bell, Fox, etc., etc., if we were to tarry in such doctrines as they advocated, and dubb them institutes, we should cut but a sorry figure in our attempts to stand in the front ranks of the teachers and practitioners of the present time. The assertion made by some of these men, of the *in*organic character of the teeth, and by others, of the capability of normal dentine to supurate, do not very well accord together, nor yet with the truth! But when viewed in the light of new observations, made under more advantageous circumstances. we may readily conceive how they fell into the errors which they recorded—leading so many away

from the line of correct observation and beneficent practice that now begins to prevail in the surgery of the mouth.

The institutes of dental science proper, demand the aphoristic textual statement of all science specially pointed to its outcrop, in the creation, development, sickening and restoration of the teeth, as a basis and guide to an intelligent and successful supervision and the performance of the necessary manipulations, to secure and render them sound and efficient in the performance of the functions assigned them in the animal economy.

He who assumes to teach this department of dental science, entitles us to look upon him for the solution, in principle, of all the perplexities which are liable to arise in the whole range of operative and mechanical dentistry. In view, then, of the immense responsibility attached to this Chair, who is there among us who may not well shrink from assuming the performance of the duties legitimately arising within its least extended domain?

Notwithstanding the lively appreciation with which I regard the responsibilities of this department of instruction—without which all others are useless—I heartily rejoice that just such an onerous Chair has been inaugurated in at least two of the dental schools.

The sense of need for such a Chair, is sure to bring out or create the ability to fill it, just so soon as the high necessity is generally felt and acknowledged in the profession. I say acknowledged, and by that I do not mean a tacit assent of the mind merely, but a hearty expression of that conviction on all occasions, coupled with earnest endeavor to add some mite to the general interest, by inquiry or a showing how and where to apply some principle which constitutes a focal point of demonstration indicative of its relation to, and control of, correct practice in the premises,—which, by multiplication and aggregation, will soon become the beginning of a code of principles or institutes, capable of improvement and enlargement in the ratio of the numbers thus actively en-

gaged in preparing a reliable guide to coming inquirers for a plain path in which to walk.

To be sure, "theory" and "principles" usually coupled with "practice" in medical schools, means the same thing, but does not express the real function of the Chair in such manly, unequivocal terms!

Although, as intimated, it smacks of impudence to accept such a Chair, it also indicates a very different quality of mind, to-wit: a willingness to try to be of service in a direction that the nomination to the Chair indicated ability was thought to exist; which, of itself, is earnest of the fact, as has been often proved in the calling of men to posts they deemed themselves utterly unfit to fill, proving to be our very first teachers and leaders so soon as they had time to bring their latent powers into the work.

There is a possibility of a man's having fitness for a post, and at the same time being the first to perceive it; but it is not the *rule* in military, civil or literary life; and hence I should prefer to have others perceive the adaptation and act thereupon, rather than to have the aspirant nominate himself, and, like a politician, busy himself in securing the election that it were quite possible he might disgrace.

There is a quality and range of mind which, naturally ethical, as naturally thirsts to see principles dominate practice as they should, as does the practical barely-fact mind demand that practice shall be the touchstone for all theory, which, at best, is regarded as of but little account.

He who feels that he has a mission to fulfill, must needs be about it. And he will often be quite unconscious of any peculiar fitness for that special department, other than the abiding desire that higher culture prevail in that direction. Such a mind will teach, irrespective of consequences, simply because he must. By continuance of which course, he must be more than ordinarily dull if he do not become transcendantly fitted for the course sedulously followed under the spontaneity of an ardent nature.

Much as I adore the high status necessary to an honorable filling of a Chair of Institutes, and much as I deplore the wide-spread ignorance characteristic of our apparent status as a profession, I have no doubt that the latent ability is now embodied among us, respectably to fill not only two but twenty Chairs of this elevated character. All that is necessary, is to find them out,—which can be done in no other way so well as by a free and fraternal intercourse with every man in our whole ranks. For so soon as true freedom and fraternity shall prevail, we shall know each other and ourselves as we never can so long as we stand aloof from either freedom or fraternity; the genuine exercise of which will soon metamorphose us from items of isolated knowledge and skill into a compact body of men and principles, whose labors and coalescence shall constitute a system of Institutes that the greatest may well be proud to find himself able to teach!

A correct understanding of the Institutes of dental science can alone fortify us against surprises and discomfiture in new and anomalous cases arising in the practice of dentistry.

It may be said that we owe much of our Institutes to the blunders and mal-practices of the former times, and therefore each can work out at the last his own theories which govern him in practice; to which I would reply that before we had a profession this was to some degree necessary. But I regard it as akin to the folly of the farmer's son, who was raised in a densely and heavily-wooded region, learning the necessity there of clearing off the timber first and plowing and sowing after; having moved to the prairie country of the west, insisted upon planting and growing trees all over that wide expanse, to prepare them for the process of clearing,—that the good old way of farm-making might suffer no innovations.

How many generations would die out, before the maturity of his trees? And how long would the world have to wait for an enlightened practice, if we were to depend upon the isolated work and knowledge of individuals to teach the In-

stitutes of dental science, without association, and without organized institutions for the investigation and diffusion of the knowledge of the laws, or Institutes, upon which all intelligent correct procedure depends?

Let us take, then, the rich prairie-ground of the profession as it is, and plow deep and settle thickly within easy reach of each other, that our work may be properly apportioned, so that the greatest facilities in teaching and practice in the various branches and departments of acquiring and performing may become established institutions among us, to the joy and satisfaction of each and of all!

DENTAL PHYSIOLOGY.

Read before the American Dental Association,

By W. H. Atkinson

This subject can have no complete announcement, without at the same time giving expression to the principles of the basis and purpose of all organic function.

As the highest life actions are foreshadowed in the simplest bodies, and the lowest functions repeated in the highest and most complicated correlation of organs; the teeth may be said to embody the simplest and subserve the highest functions of human physiology; the first in the mechanical comminution of food, and the second in the divine expression of thought resultant upon a well fed system by *speech.* A correct report of Dental Physiology should set forth a synopsis of every possible function performed by teeth.

It is manifest that this herculean labor is far in the advance, not only of any living man's single powers, but also of the aggregate details of all observers which have been noted and placed upon record.

A lucid synopsis of what is known, and acknowledged to be the proper function of the teeth, will go far to prove our lack of knowledge in that direction, and may serve to stimulate the spirit of research which is some day to be blessed with clear

apprehensions of the significance of types of teeth, as indications of legitimate uses to which they may be put by their possessors. The means of keeping the teeth of human beings in a physiological state are few and very easy of textual or aphoristic statement, however difficult it may prove to induce the degenerate offspring of a luxurious race, to yield implicit obedience to the laws governing their being.

Habits are denominated good or bad, as they tend to the full development for vigorous use of every organ and every faculty, or to their deterioration in size, power and efficiency.

In view of this statement, it will not be difficult to designate the *character* of the *habits* of the American people as a whole, which have so interfered with the development of the teeth, that we have scarcely an individual in the community, who could be safely cited as an example of a purely *physiological* dental function.

How may we best secure a physiological state to our teeth?

Ans.—The methods of procedure promptly and completely to effect this desirable end, would also be the methods of securing uninterrupted health to the whole organism. But a few rules well observed, will be a good beginning in the work of establishing a true dental physiology.

I. Never expectorate, but swallow all the secretions of the mouth.

II. Eat regularly at stated periods, and take no intermediate lunches.

III. Never eat when very weary until some drink has been swallowed—pure water is best.

IV. Never eat to depletion nor exercise violently immediately after.

V. Keep your teeth and the surface of your body scrupulously clean.

VI. Avoid taking any substance into the system which is not properly a food.

VII. Exercise freely but regularly every day, and take

all the sleep you can in one uninterrupted effort in the night, (darkness).

He who has never suffered a twinge of pain knows nothing of the value of immunity therefrom, and can have no real sympathy with those who are called to suffer for the infraction of law in themselves, progenitors, or confreres; and hence, when pain does at last overtake him, he is unmanned at once, and is in a pitiable state of excitement and apprehension consequent upon his ignorance of suffering and its consequences. All his boasted stamina and capability for endurance vanishes at the first demand for the proof of their possession, and he is proved to be much the inferior of the feeble sufferer, who has been crucified again and again in the furnaces of pathological experiences, and can now calmly and intelligently administer to his relief by exercising the knowledge thus attained.

So we may say he who has never known other than purely physiological states of mind and body, is a novice, and really more intensely demands our condolence and sympathy than those who have passed the baptism of frequent crucifixions of the affections and tortures of physical suffering.

The great use of the study of physiology, being to teach us how to avoid pathological conditions, it is next thing to impossible to confine ourselves to an undisturbed functional activity, or purely antegrade physiological role of organic movement; seeing that the dark back ground of departure therefrom so environs us on all sides that the antithesis is ever with us in either latent or active state.

Then if we can not in the nature of things *now*, have other than theoretical knowledge of a pure dental physiology, let us endeavor to accept and thoroughly investigate the highest approximation thereto that is within present reach, not resting satisfied to be as well posted as our progenitors and elder brethren only, but push our studies and observations deeper and deeper into the unexplored recesses of life actions, in small or great fields of her occult and open labors, as we may

find opportunity to gratify our thirst, to become familiar with, and able to interpret her every act.

Clearly to apprehend the proper physiology of the component parts of teeth, it becomes necessary for us to reach back into the histogeny thereof, for without perfect germs completely nourished, we can have no pure physiology in the bodies produced.

If we attempt to deduce a doctrine of perfection of organic correlation of elements and parts from the writings extant upon this subject, we shall soon become convinced that confusion and vague attempts at explanation hold the dominion in this border land, connecting the seen and unseen bodies, whose workings together constitute what is nominated function, the incomplete balance of which excludes the bodies from the normal pale of physiological activity.

In the main, they all tacitly or expressly adopt the atomic theory of origin to elemental bodies; but in attempts at explanation and close definition, the terms molecule, granule and cell, are so confounded as to preclude us from deciding which is the primal body.

The term *cell* is used in a multiplicity of senses, covering not only the idea of simple, but compound elementary bodies, and even tissues, if not organs. Let me state then, that a simple, proper, primal cell is a *seen*, *demonstrable* body, with a wall and contents, while a molecule, granule or atom, is always an *unseen*, and therefore *not* demonstrable body, by any other than purely theoretic processes.

The great mistake has been the failure to see that all bodies in their reality and specificity of character exist in the unseen before they can put on the symbolic, seen or the so called "real," material, or "actual" presence; and any imperfection of the elements of "type," necessarily lay the foundation of that state of function called pathological, as certainly and effectually, as does any disturbance of the law of balance of equivalency, in the blastema or plasm, out of which bodies are evolved under the control of that type.

If the type then be in only a pathological condition itself, would it be reasonable to hope for a body physiologically endowed, to be produced under its incomplete dominion.

Having premised then, that all our physiology on this planet is but a higher or less divergent pathology, the light begins to break in upon us, teaching us that all our definitions are but approximate, not absolute.

However teeth being the organs which connect the rest of the system with that part of the kingdom of nature deemed inorganic, we may fairly expect to meet in them with nearer approximation to the purely physiological state; as the lower we descend in the scale of life endowment, the less complicated will we find the elements of bodies, and consequently fewer deflections from the normal standard in number and degree will present themselves.

The old definitions of the three kingdoms of nature, so called, viz.: "Stones, (minerals,) *grow*, vegetable *live* and *grow*, animals *live*, *grow* and *feel*,"—will answer for very general and vague investigators only, as growth is as legitimately an act of affinity or life in its degree, as are either other of the modifications of the same presence denominated living and feeling.

There must needs be affinity of some sort and some degree to permit even the relation of contact in bodies simple or compound, primal or ultimate. So we argue that the intimacy of contact,—not to say interblending (as the microscope reveals,) of enamel and dentine, of this and cement on the one hand, or dentine and pulp on the other, without inciting incongruity of action in either, from the lowest to the highest, or the highest to the lowest in life endowment, we must come to the conclusion, that it is at least a similar if not identical presence, which holds the dominion of each and renders each subservient to the other, and the whole subservient to the entire system to which it belongs.

Fact and experience prove what theory here suggests, viz.: that enamel is the most perfect of all the dental tissues,

and more nearly approaches uniformity of type, wherever this tissue is distinctly pronounced. Just as we rise from the simple primatism of enamel rods, do we meet with increased departure from uniformity of structure, which renders it doubtful under what category of tissue to set it down, until we have conclusively proven the mode of nutrition and comparative age of the tissue.

Vicarious performance of function is no less displayed in teeth than in the neural and vascular or glandular systems. Where there are but two tissues composing the tooth, viz.: pulp and dentine, (or its cartaliginous representative,) we discover a superior degree of calcification, hardening the outer portions of teeth liable to exposure of contacts with hard substances, to a degree but little inferior to enamel, whose function it performs remarkably well.

Upon this principle of vicarious hardening, was based the practice of the older dentists of filing out the decay, and polishing the exposed dentine of human teeth, which was such a blessing where calcific action was induced, and such a burning opprobrium where it failed to be set up to arrest the progress of the disintegration of the now exposed dentine, which refused to do vicarious duty from inability to deposit calcareous salts in the peripheral ends of the tubules, and thus simulate the structure for which it was forced to stand.

Another vicarious action in both enamel and dentine has attracted some attention under the heads of "tooth edge," "tenderness," etc., etc., in which these dense structures have performed the function of nerve; (the most remarkable anomaly in the whole economy, if indeed, the mineral enamel is inorganic.)

The query whether this is a physiological or pathological act, will be answered by reference to what was said on a foregoing page, of absolute and approximate definitions.

When contacts are so violent as to produce pain, the majority would be inclined to the term pathologic, while by

those on whom it was only able to announce its presence, by their simply feeling it, the physiological character would be claimed.

My own conviction is that all well organized human dentine *is sensitive* to the cuts of an excavator, when in a state of our best examples of health until after calcific obliteration of the tubules, when it can be cut with impunity equal to sound enamel; and hence I can easily conceive the action to be both vicarious and truly physiological, as it comes within the range of instantaneous extinction by spontaneous, systematic, or premeditated chemical or electrical change of the neural current.

Just how far vicarious function can modify the physical character and office of teeth, and other bodies within the limit of a strict physiology has not been demonstrated. But that modifications to very considerable degree do take place, the varieties of color, shape and term of life of organs and persons, branching from an identical stock or parentage abundantly testify; for if type alone held the dominion, every tooth and every body would be like the parent type, in exact accordance with the degree of development, age, sex, and other typal conditions.

But as type and use or function seem to divide the perfectibility of teeth and other bodies, it ought to appear to the philosophical mind, that where enamel rod continued to perform the function of nerve for a series of generations, it must lose more and more of its hardness, and adapt itself little by little to the predominant conditions necessary to more perfect performance of its adopted functions.

As to the query of whether function originates modifications of the type of the various forms of classes and individual teeth? or the type pre-determines form, size, complications of structure, other character and functions of teeth? it is of the utmost importance for us to know the correct solution, before we can assuredly determine and differentiate the normal from the vicarious and the physiological, from the

pathological functions of these intensely interesting and instructive, so deemed simple bodies!

Doubtless use modifies development within the limits of type, while type classifies and distributes to their proper location the various forms of teeth, wherever she finds means to fulfill her work; so that there is a mutual dependence of the one upon the other for the complete expression of either concurrent, democratic, molecular and autocratic, systemic or typal, accord alone being able to hold the dominion in the republic of molecules, whose community constitutes bodies of complete development.

Any thing short of perfect symbolization of type being but a side choice of nutriment and growth, by which pathological conditions insinuate themselves, and thereby produce adventitious varieties of sickly bodies, which mar the type by unduly nourishing one set of tissues or organs, and repressing by atrophy others as necessary to the system, thus distorting and debilitating the whole!

Having grouped together all the acts of creation, evolution and use pertaining to the teeth, we may easily apprehend the liability there is to imperfectly effect the work in the various stages and degrees to perfection, amid the multiplicity of forces, each of which clamors to subdue to his exclusive control all the others! This anarchy among molecules runs riot in the vast majority of dental systems in human mouths in America! And I am sorry to be forced to acknowledge, that something very much like a similar anarchy holds the rein in our dental physiology.

But that a better day may speedily dawn upon us, all that is necessary is to have each one set about the work of redemption from ignorance and the sins of an imperfect practice consequent thereupon, with all his might, determined not to rest contented, short of complete satisfaction to his own perception of every query that spontaneously, or suggestively presents itself for solution.

How may we then best avoid continuance or repetition

of this anarchy, or pathological status of our doctrinal and professional physiology?

Ans. By each acting fully up to his individual capacity, with direct reference to communicating the work of isolation, that it may shed its light upon the aggregate professional body.

To do this faithfully and fully is the only way by which the whole can be harmoniously correlated in demonstrations clear and certain. And this can not be effected until a more earnest, self-sacrificing spirit shall become prevalent among us.

However well a few may fulfill these requirements, our progress in true knowledge will be but a lame or pathological expression, until the individual members of our body, like the molecules of living physical bodies, shall *all* fulfill their specific work of detail, in the complete harmony of consentaneous action of support to the whole, or be, like effete molecules and cells, purged from the community of the system.

AN ADDRESS.

By Dr. Corydon Palmer, Warren, Ohio.

Mr. President and Gentlemen:—Permit me to claim your attention for a short time only. It has been said that I am odd; if so, my aim is only to be useful. And, if I speak of myself, it is only that you may the better appreciate that which I am about to lay before you.

Then I would say that, in the portion of the West where I reside, I have been a *pioneer* in dentistry. When a mere boy, I chose dental surgery as my profession. Then dentists were rarely heard of. Scarcely anything was known of operative, and still less of mechanical dentistry. My tastes being inherently artistic, accident led me to find in this field, not only their gratification, but the opportunity of benefiting my fellow-men. Twenty-four years have since passed; and we are all familiar with their changes. We, who began thus

early, had to work our way as best we could; while you, who have had the benefit of dental schools, have a great advantage over us, by coming into successful practice earlier in life, and are, consequently, prepared to do as much—to do vastly more than we could do at your age, and have, also, a much longer prospect of usefulness before you.

To speak of the changes of these years:—we have now our dental schools, the improvements in artificial teeth, improved foils, and constant improvement in manipulations. The instruments of operative dentistry are better adapted than formerly. We have had our conventions thrown open to all who call themselves dentists; and, last, but not least, we have the American Dental Association, composed of earnest and honorable dentists who aim to elevate our profession and benefit their fellow-men. I feel at home here. We have shaken off the clogs which impeded our progress, and are here willing to hear whatever of good any may have to say.

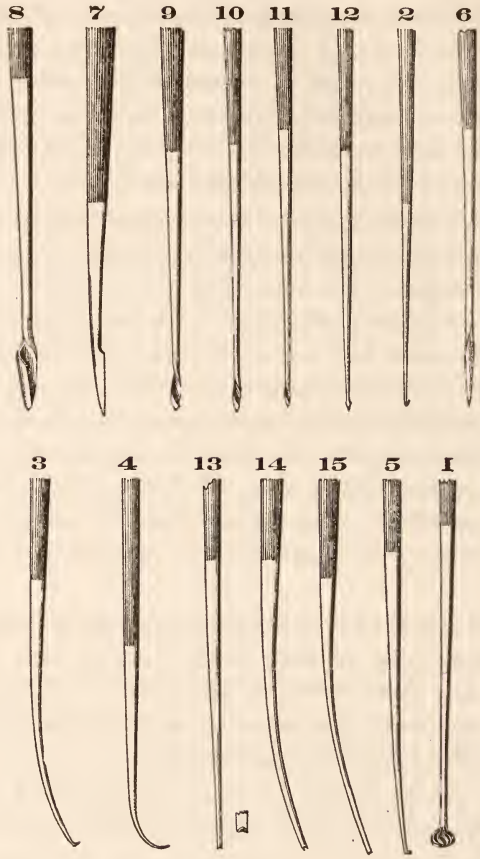
My first aim has ever been the improvement of our profession,—encouraging earnest, honorable members, and carefully avoiding those known to be dishonest. And now, that we have progressed thus far, allow me to embrace this opportunity to offer a few practical thoughts.

It may not be known to some of you, that I have been laboring, for years, to have artificial teeth improved in form and adaptation; and, of any success in this direction, we have alike had the benefit. I now show you my models and casts, giving you the result of my efforts in restoring the expression of the face.

I now, also, show you exact duplicates of instruments in operative dentistry, which I have in daily use. They refer to nerve operations and fang filling,—operations claiming much of our attention, and taking much of our time.*

---

* The accompanying illustrations represent the instruments referred to for nerve operatians:



No. 1 is a bur which may be used for enlarging the orifice of exposure; and also for giving a more regular and better form to pulp-cavities.

No. 2 to 5 inclusive, are used for removing the pulps from teeth.

No. 6 is tapered, terminating in a sharp point, convex upon one side and flat on the other, and has two edges; is used for dressing out canals.

No. 7 is sharp-pointed, knife-shaped with a single edge, and a round thick beck; and valuable when it is desirable to cut only upon one side of a canal.

Nos. 8 to 12 inclusive, are pod-shaped reamers, for enlarging and dressing out canals for filling.

Nos. 13 to 15 inclusive, are serrated pluggers, for filling fangs and pulp-cavities. PUB. COM.

Prin-ciple and *system*, in these minute operations, are very important. It has been the practice, in speaking of nice operations on the teeth, to say they must be performed so and so, with fine instruments,—without giving any definite idea of what those instruments are like, or how they are to be made, or reproduced when broken. I am much in favor of dentists being able to repoint their own instruments, as they can better adapt them to their special wants than an instrument-maker who is not a practical dentist.

It is often tedious and difficult to describe that which is easily done. Ocular demonstration is usually far more satisfactory than verbal description. If the suggestion of some general principles should prove useful, it is all I expect at this time. I do not advocate the propriety of dentists forging dressing, and finishing from the rough steel, their own instruments; for few would be able to do this. But they should be all able to repoint, for special uses, such pieces as they know to be fine steel. The process is this:

Draw the temper of the steel, and file down to proper size; heat again, and with a small hammer turn the point to the desired angle, hammering it on both sides to keep it perfectly true, and continuing the hammering slightly after it is cold. When perfectly shaped, it is ready for tempering. To do this, direct a large flame on the heavy part of the shaft of the instrument—running the heat toward the point, and raising it barely enough to harden the steel,—and plunge the instrument into clean water. This gives perfect hardness. Now brighten the hardened portion, and sieze the cutting edge with pliers, and support the shaft on the fingers of the same hand. Direct a small blowpipe flame on the shaft, till a clear blue is obtained—carefully running the heat toward the point, almost to the angle; then throw the jet of flame close to the pliers, and run it back till the colors meet; and then cool instantly in water.

In tempering, it is important to save what is gained by the condensation of the crystals in cold hammering. This is

done by heating no more than is barely sufficient to harden the steel. The three grand points in the process are—first, avoid overheating, and hammering cold; second, heat just sufficient to harden; third, keep the cutting portion cold, so that no possible change of color takes place in it. In taking this ground, I am aware that I go in direct opposition to all that has been taught heretofore by instrument-makers. They tell us that steel will not stand so high a temper.

In early life, I became acquainted with very many of the finer operations in the arts; and hence I have been able to demonstrate the above facts. I do not claim to know more than many others in our profession; but I believe in setting forth such truths as we have in store, for the benefit of those who have not yet attained to them.

The instruments I have here presented you, were designed expressly for this occasion. They are for nerve operations, being copies of those I have in daily use; and they have also been tried in the mouth, to insure their perfect adaptation. In offering them to the Association, with these remarks on repointing and tempering, I have no object in view but the general good; and with your approbation I have my reward.

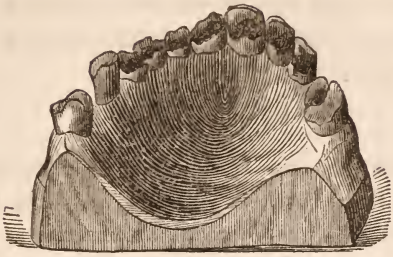
A PECULIAR CASE OF FILLING.

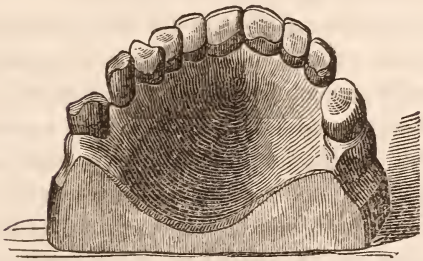
Presented to the American Dental Association,

By Dr. W. H. Allen, of New York.

The engravings here presented, represent a set of teeth before and after an operation for restoring lost portions. They are from the same mouth. The teeth were very much worn, and quite tender, all except the right lateral incisor which was worn into the pulp, and that was dead.

I screwed a strong gold wire into the pulp-cavity, and built adhesive foil around it, until the tooth was restored to its original shape, as shown in the model.





The gold was attached to the other teeth which were worn, simply by drilling and cutting retaining points, in the body of the tooth between the pulp and the enamel, and welding the gold to that which was driven (with the mallet) into the retaining points, in this manner adding on, till there was sufficient to give the crowns the original forms. These teeth have been in constant use, without needing repair, since February, 1859, when the operation was performed.

Filling up worn or cupped teeth, I consider a very important operation,—quite as much so, perhaps, in some cases, as though the teeth were decayed. There is certainly, in this direction, quite a field for experiment.

REPORT OF THE DISCUSSIONS UPON THE PAPERS PRESENTED AT THE AMERICAN DENTAL ASSOCIATION.

By Geo. W. Ellis, M. D.

The Association met at the Assembly buildings in Philadelphia, at 12 o'clock on Tuesday, July 28, 1863.

Dr. Geo. Watt, President, in the chair.

The organization of the meeting and its business transactions, are elsewhere given in this volume.

After the election of officers for the ensuing year, a resolution of thanks was extended to the retiring officers.

The President elect upon being conducted to the chair, referred to his appointment as a flattering expression of confidence which might, he thought, have been appropriately conferred upon one more capable; he tendered thanks, however, for its bestowal, and hoping to profit by the example of his predecessor, would endeavor to accomplish the faithful discharge of his duties.

Dr. Watt, the retiring President, said he would follow the precedent established, and although provided with no prepared address, would make a few remarks. He had, by some unaccountably curious circumstances, been drawn into the dental profession, how or why he could not say, but he fully appreciated the obligations under which he was placed by the hearty and affectionate welcome extended, obligations which he was able to repay only by feelings of the most profound gratitude for the many favors and indulgences of which he had been the recipient. He thanked the Association for its kind indulgence and his earnest reception; he cared not for the opinions of any one except his co-laborers, who could appreciate his motives, and whose commendation he sought to merit. He referred to the growing condition of the profession, and would condemn that impatience which expects too much. No science has yet attained perfection, and he thought that dentistry had already accomplished much more than could

reasonably have been anticipated. He dwelt upon the increased knowledge of caries, that most formidable disease which the dentist has to combat, and, judging from the past, believed that time and research would eventually elucidate its nature and causes. He considered that imperfect development and hereditary transmission exerted their injurious effects, and would serve still further to dispel the mystery. Dental science is fulfilling its promises, and nothing could awaken feelings of greater pride than to witness this Association in active and successful operation, promising to become the central influence from whence advancement and improvement will emanate.

The report of the Committee on Dental Physiology was then presented and read by Dr. Atkinson. The entire physiology of the teeth he regarded as a limitless subject, whose thorough consideration would prove a herculean task; he alluded to the double duty which the teeth discharge—in the mechanical comminution of food, and the divine expression of thought resultant upon a well-fed system, by speech. The influence of perverted habits would, he thought, account for the prevalence of dental disease among the American people, and an exemplary course which would secure good teeth would also insure the enjoyment of good bodily health. This desirable result he considered would be much promoted by the observance of the following rules: Never expectorate, but swallow the saliva; eat regularly, and discard lunches; never eat after weariness and fatigue before first drinking; never eat to repletion; keep the teeth and entire body clean; avoid taking that which is not food; exercise through the day and take uninterrupted rest at night. Those who have never suffered can not appreciate pain, and consequently with its first attacks, readily succumb. Our physiological knowledge is not perfect, yet profit must be derived from its acceptation and appropriation. Function he described as the combined working of seen and unseen forces. He gave a short and clear explanation of cellular pathology. He regarded the

teeth as important structures in so far as they constitute a connecting link between the organic and inorganic world. He entered into an explanation of the functions of dentine and enamel, and believed that a sensitive condition of the latter tissue was both a vicarious and physiological condition. The true type of an organ, he thought was changed by the adoption of an unnatural function causing the nourishment of one tissue at the expense of another, and thus inviting or favoring pathological changes. He advised in the profession a cultivation of that harmonious and consentaneous action exhibited in the molecular world, the absence of which would bring forth only decayed and effete productions.

On motion, adjourned to meet at nine o'clock on the following morning.

SECOND DAY.

Called to order at nine A. M. The minutes of the previous day were read and approved. A consideration of the report on "Dental Physiology," read by Dr. Atkinson, was declared in order.

Dr. Watt was not prepared to unite with the assertion that different textures could perform various functions, and was induced to believe the acceptation of such a view consequent upon an effort of the imagination; and although dentine or enamel might be endowed with nervous vitality, he believed it impossible for them to perform the duty of nerve tissue. He questioned the nervous vitality of enamel, and thought that a painful response was due either to a minute exposure of dentine, or an over-excited and susceptible condition of the more internal structure.

Dr. Atkinson, to insure a clear comprehension of his statements, entered iuto an explanation of the positions he had assumed, and to which exception had been taken. He believed that dentine is always sensitive before an entire obliteration of the tubules by calcific action. He said that he file had been advocated and employed with the intention

of removing decomposed structure and exciting the physiological action of calcification for the protection of the healthy structure, a result easily attainable under favorable conditions of the system; but its failure from indiscriminate and unscientific application had subjected it to unjust condemnation. By the term vicarious action, he meant the action of one tissue for another, as calcified dentine assumes the place of enamel, and performs its duties quite efficiently.

Dr. McQuillen asked whether he understood Dr. Atkinson to say that certain conditions would occasion sensibility of enamel.

Dr. Atkinson explained the necessity of a complete circuit to insure sensation, and believed that every molecule of enamel, of nail-tissue, and of tendon was able to feel.

Dr. McQuillen recognized enamel merely as a conductor, by vibration, of impressions made upon it, and cited as an illustration the vibratory nature of the sense of hearing. He took exception to Dr. Atkinson's theory, and believed that the painful sensation induced by touching nails and tendons was due to an exalted sensibility of the surrounding tissues, rather than to a change in the nails and tendons. He indorsed the belief that consolidation of dentine would arrest the progress of caries.

Dr. Spalding referred to the undeveloped condition of a child's organism, and thought that Dr. Atkinson's allusion to the sensibility of enamel in such subjects was most probably owing to the incomplete solidification of that tissue, the intervening soft structure being capable of conduction. He doubted that sensation could be produced in perfect and adult enamel without there first being some chemical dissolution of its substance.

Dr. Flagg remarked the great difference of taste as influenced by the difference of brain organization; his fancy had led and confined his study and investigations mainly in a pathological direction, and he was obliged to plead a very

limited knowledge of physiological subjects. Filing he believed serviceable only so far as it removed the presence and contact of injurious substances, and diminished the chances of their further accumulation, and thought that it contributed to consolidation only so far as it accomplished this result and permitted the favorable operation of a pre-existing tendency to this physiological change. He described the conductive power of the tubular contents in giving to the pulp information of the advancing trouble, which puts forth efforts to accomplish consolidation; yet, theoretically arguing, he thought this new tissue from its lower organization, would seem to favor the progress of caries rather than act as a barrier to its advance; where this is the case, he makes a free use of antacids.

Dr. Watt cited the instances of tooth-edgedness which existed long after loss of all the teeth.

Dr. Flagg was aware that after the loss of teeth or limbs, sensations were referred to the absent members; yet thought that such sensations could never be experienced unless the organs were once in existence.

Dr. Taft could not reconcile the sensation frequently referred to *artificial teeth*, with the theory of enamel sensibility. He said that with the advance of age the pulp deposits new material, or is itself calcified, and in a well-organized tooth, increased effort is induced in the former direction by the progress of disease, erecting as it were fortifications to guard against an enemy's approach. He believed that the file, by stimulating the vital energy of the pulp, might favor consolidation.

Dr. McQuillen had great faith in the vis medicatrix naturæ, and much less in the materia medica, and regarded consolidation of the tubuli as the best means of arresting decay; for in proportion to the increased surface afforded by open tubuli to the action of an injurious agent, is the progress of caries facilitated and hastened.

Dr. Fitch said that every part of a tooth is an organized

structure, and consolidation he regarded as the result of a hyper or extra physiological act.

Dr. Butler said that the removal of a pulp changes the physiological character of decay; and the periosteum, in nourishing the entire tooth, has assumed a vicarious action. He regarded the deposition of secondary dentine as a physiological act.

Dr. Hawes remarked that there was great difficulty in establishing a perfect line of demarkation between the dentine and enamel, and from the continuation of nervous structure a short distance into its substance, the latter tissue might possess sensation.

Dr. Spalding said that he had employed the burnisher to close the mouths of open tubuli, and when heated to assist the mechanical action, he found it to accomplish the result more effectually; he would simply draw attention to these subjects, as he had met with success by such treatment.

Dr. Taft said that enamel is not equally susceptible of sensation at different times. He thought, from the intimate blending of dentine and enamel, that there might possibly be a continuation of nerve tendrils into the latter tissue. He regarded it better to protect than to break down the ends of the tubuli with a burnisher, hoping that consolidation would ensue under such coverings, as it frequently does under fillings; and with the view of relieving sensibility and favoring consolidation, he would make applications of glycerin or collodion, not as therapeutic, but merely as protective agents, and if indicated would employ, in conjunction with local applications, systemic treatment. He was rather opposed to applications which were chemically destructive.

Dr. Hurd insisted upon a thorough discussion of the subject, and would like to know whether the advocates of sensitive *enamel* ever saw dead enamel which emitted an unpleasant odor?

Dr. Taft thought that the destruction of a pulp diminished the tendency to tooth-edgedness.

Dr. Buckingham referred to the obscurity of the term *sensation*, and believed the property to be resident in the cell. The enamel he believed to be sensitive only by conduction.

Dr. Hurd had determined, as the result of his observations, that tooth-edgedness is most prevalent after the age of fifteen years; and thought that this might be accounted for from the fact that very few over that age are blessed with *perfect* teeth.

Dr. Taft admitted that there are very few if any *perfect* teeth, various degrees existing as we advance from the lowest to the highest type of tooth organization. He referred also to the existence of very obscure differences, and dwelt upon the different susceptibility of different teeth, and of the same teeth at different times. He thought with Dr. Hurd, that tooth-edgedness was most prevalent from fifteen or eighteen to thirty-five or forty years of age.

Dr. McQuillen thought that at fifteen years of age, in a good organism, the teeth were *more* perfect than previously, but believed the exciting causes of the sensibility to be more prevalent. In other words, children at that age indulge more freely their *propensities for articles of diet* calculated to injure the teeth.

Dr. Kingsbury thought that in the teeth of children the nerve fibrils may permeate the enamel to a certain extent, endowing it with sensibility; but the structural changes eventually fill up and obliterate the spaces between the enamel rods, and diminish its susceptibility to external impressions. He was opposed to the application of chemical agents to relieve sensibility, and had never adopted such practice, but would advocate measures calculated to stimulate calcification. He had thought the sensibility owing to the direct action of acids, and had consequently made a free use of alkalies.

Dr. Atkinson thought hyper-sensitive tooth tissue was occasioned by the combined influence of systemic and local causes.

Dr. Spalding makes use of the actual cautery upon sen-

sitive grinding surfaces, and believed it in careful hands an efficacious application. He described his method of manipulation.

Dr. Kingsbury said that when a tooth was sensitive upon the grinding surface, and the pulp nearly exposed, he would advocate its extirpation and a thorough filling of the fangs as the quickest and surest method of securing relief.

Dr. Flagg said that when sensitive cavities refused to yield to any of his numerous remedies, he excavated by the application of acids, neutralizing any portion that might remain before the introduction of a filling.

Dr. Buckingham, in reply to a question of Dr. Flagg's, stated that tooth-edgedness resulted from the internal exhibition of arsenic.

Dr. Flagg referred to the influence of sound in occasioning tooth-edgedness, as instanced in scratching upon a slate, sharpening an instrument, etc., and thought that the existence of this condition could be best accounted for by conduction.

Dr. Fitch said that disease was the result of perverted nutrition; and since a vitiated condition of the system induces a similar disturbance in the teeth, these influences must be admitted to reconcile all the differences experienced. He thought that healthy enamel was rarely subject to tooth-edgedness, unless it was occasioned by some systemic influence; hence the necessity of *both* local and systemic treatment.

Dr. Lyman mentioned an interesting case of a gentleman, about forty-five years of age, who was unable to indulge in anything sour without quickly using sugar to counteract the tooth-edgedness which it produced.

Dr. Taft hoped that experiments would be instituted during the coming year which would tend to elucidate this most interesting subject.

Dr. Sill had suffered much from tooth-edge when a child. He found that on eating an apple termed the Woolman Stripe,

the sensation was almost unbearable until counteracted by indulgence in a Pearmain, which he supposed contained a greater proportion of sugar.

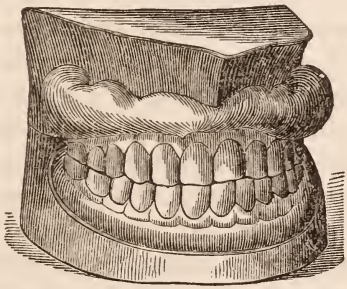
AFTERNOON SESSION.

The Committee on Chemistry were unable to report, owing to the existence of circumstances absolutely forbidding its preparation.

The report of the Committee on Dental Pathology and Surgery was presented by Dr. Atkinson. He mentioned the necessity of a physiological knowledge for a pathological understanding. Stated the liability of mutation in abscesses. He thought the quotation "He who sleeps, dines," was worthy of consideration in the treatment of diseased and debilitated conditions. The simplest form of pathological disturbance in enamel is a mechanical separation of its parts. The second change is chemical, which involves the idea of solution or molecular disintegration, and will go on serially so long as the affinity of the solvent for the molecules is greater than that which exists between them for each other. There is also a state of semi-solution and resolidification which is truly pathological, and is displayed in cicatrices and reproduction of cellular and osseous structures. The pathology of secondary dentine he thought of too little practical importance to merit further attention. The pathological conditions of primary dentine are arrested and recuperated by deposition of lime, burnishing, etc.; similar conditions of the pulp call for depletive and antiphlogistic treatment. He impressed the influence of moral treatment. Repair is always the immediate consequence of injury with the existence of a healthy blood plasm. In the destruction of pulps he applies one-sixth of a grain of arsenic, and removes and fills within one week. He gave a short description of the reproduction of the cranial and maxillary bones. The report was accepted and referred to the Publication Committee.

The Committee on Mechanical Dentistry had no report. But in this connection, Dr. C. Palmer presented some very interesting models, designed to illustrate his method of restoring the facial contour by means of rubber. Before exhibiting these, however, he made a few remarks, in which he attributed the sinking of the features entirely to the loss of the roots and processes. He wished to impress the value of a proper articulation in artificial work, and would direct attention to the *receding* position which the bicuspids should always occupy.

[The accompanying engraving represents the model presented by Dr. Palmer. It presents the idea at once, without any lengthened description.—*Pub. Com.*]



Dr. Spalding made some remarks on the position of artificial teeth, and referred to the prevalent fault of giving them the horseshoe curve rather than that of a laterally flattened arch.

Dr. Flagg also said a few words upon this subject. He referred to the different character and position of teeth indicated by differently moulded features, and could not attach too much importance to the inward inclination of the bicuspids and molars; for upon the observance of this point the entire utility of the work will mostly depend.

On motion, adjourned to meet at nine o'clock A. M. on the following day.

THIRD DAY.

Called to order at nine o'clock A. M. Minutes of the previous meeting read and accepted. The discussion of the report on Dental Pathology and Surgery was declared in order.

Dr. Atkinson gave the history of some very interesting cases, and stated the necessity of understanding the nature of the tissue with which we have to deal, and of recognizing when and when *not* to interfere. He thought the reproduction of bone a new process, and would thus classify the forms of disease affecting human bones: first, venereal virus; second, mercureal influence. With regard to the latter, he would say that metallic mercury is entirely inert, a binary or higher compound being necessary to render it capable of effecting a systemic impression. He referred to the necessity of educated touch to discover abscesses. There are two ways by which the death of bone is produced, viz.: First, when bones are dissolved and held within the walls of an abscess; here recalcification may be obtained and a perfect cure established; although the new bone will be of lower organization than the original. Second, necrosis. He believes that a loss of nutrient vitality occurs before the periosteum dies, and exhibited his instruments, termed "enucleating forceps," for separating and preserving this membrane. Venereal virus first attacks the cancellated tissue of bones; and when this condition is known to exist, he evacuates the solution and dresses with iodine and glycerin. When, however, there are mingled malignant products of disease, he uses the officinal tincture of iodine. In milder cases he mentioned wine of opium as a good application; but in cases requiring prompt and heroic treatment, he would use his sheet-anchor—a saturated solution of resublimed iodine in creosote. He described his method of making application by means of bamboo strips wound with cotton; he then covers the edges of the orifice with a mixture of 2ʒ tannin to 1ʒ glycerin by weight, in order

to prevent the oozing application from coming in contact with the mucous membrane. When pus is present, he uses the syringe; but the existence of a stringy or ropy plasm he regards as a good sign, and an indication for non-interference beyond the dressing of the outside with tannin and glycerin. He described an interesting case in which the upper maxillary and superior turbinated bones were gone, and the middle turbinated bones much inflamed. He first removed the diseased structure, *obtained a pocket for the retention of the plasma*, and by application of his favorite solution of iodine in creosote, succeeded in effecting a very remarkable cure. He gave a description of several minor and very interesting cases.

Dr. Watt moved that, on account of the abrupt termination of the report, the last imperfectly descriptive paragraph be omitted.

Dr. McQuillen moved, as an amendment, that Dr. Atkinson be requested to make certain modifications in, and additions to, his report; and that it be referred to the Publication Committee. Carried.

The discussion of the paper was then in order.

Dr. McQuillen said that several years since a friend of his remarked that "it was a great pity that nature had not been as provident to man as to crabs and lobsters; for when the latter lose their claws, new ones are soon supplied; and he thought that the teeth of man should be restored when lost in the same way." This of course was said facetiously. There was reason, however, for congratulation in observing the efforts which were being made to induce nature to repair the ravages of disease in the osseous system. He was not as skeptical as some of his friends with regard to the statements of Dr. Atkinson. The records of surgery substantiated in the fullest manner the possibility of such things. In connection with this, he referred to the increased size of the *fibulæ* following the loss of the *tibia* from necrosis in a well authenticated case.

Dr. Atkinson reiterated his theory of necrosis, believing it

to result from a destruction of the cancellated tissue, and not from periosteal death.

Dr. Flagg moved a suspension of rules to enable Dr. Garretson to address the Association upon this very interesting subject. Carried.

Dr. Garretson said that the nutrition of bone was an agitated subject. He described a very interesting case of a boy who was kicked by a horse, the blow taking effect upon the os frontis, and causing a separation of the scalp and periosteum. By bringing the parts together, union by the first intention was effected. Shortly afterward the child fell and struck the head, separating and throwing back the newly united parts, which afterward sloughed, giving a good opportunity to decide whether or not bone is entirely dependent upon the periosteum for nourishment. It was left denuded for five weeks, when, upon approaching the parts, union was obtained, and the tissue covering that portion of the head is now in a perfectly healthy condition.

Dr. Kingsbury said that the view expressed by Dr. Atkinson, that other tissue than periosteum would produce bone, was not novel, but was also advanced by Dr. Gross in his work upon surgery.

Dr. Watt did not think that the case described by Dr. Garretson would prove that bone could be nourished without periosteum; he had himself suffered with necrosis of a portion of the os frontis; he scraped the diseased surface, and under applications of simple cerate for one week the parts recovered, and, at the present time, there is but very little trace of its location; besides, he experienced no difference between the sensation of that and the surrounding tissues, a fact, he believed, owing to a reproduction of healthy periosteum.

Dr. Flagg contended that isolated plasma could not organize bone unless emanating from and resting in contact with periosteum. He believed that bone always dies before the periosteum. He thought violent rinsing of the mouth after extraction destroyed the vitality of the parts by preventing

formation of a clot to act as a pouch for the retention and protection of the organizable plasma; consequently where it was absent, he induced its formation by scarification.

Dr. Garretson mentioned the fact that long bones grow from their epyphyses in length, and from the periosteum in circumference. He knew that bone was produced as stated by Dr. Atkinson, but how it was formed he could not say.

Dr. W. H. Allen could testify to the cases described by Dr. Atkinson; he had himself succeeded in partially reproducing the external plate over two denuded incisors. He described a case in which the teeth were very loose, where, from the treatment described by Dr. Atkinson, they were rendered quite firm and serviceable.

Dr. Fitch wanted to know if a tooth deprived of gum and bone for two-thirds or more of its length could be rendered useful by a reproduction of the processes and restoration of the former tissue.

Dr. Atkinson said it could, and cited instances in proof of the assertion, which were vouched for by Dr. Hawes.

Dr. Fitch believed that certain membranes govern the production of certain structures, and that secondary structure in character depends upon the crasial condition of the blood and the forces which preside over its formation.

Dr. Taft gave the history of an interesting case of a gentleman, 23 or 24 years of age, of sanguine temperament, and naturally good vital force, but at the time referred to, very much reduced by repeated attacks of fever and ague; there was a large continuous abscess extending over the four superior incisors; tonic remedies were exhibited, and the necrosed bone removed. Tannin, creosote, glycerin, and iodine were the applications employed, and although the treatment extended over the space of three months, the firm retention of the teeth by the reproduction of bone entirely down to their necks fully compensated for its tardiness. He referred to the efficiency of Dr. Atkinson's treatment in reproducing

the septum between a second and third superior molar in his own mouth.

Upon motion, the report was adopted.

The report of the Committee on Dental Literature was read by Dr. J. H. McQuillen. It embraced a review of the most recent works issued upon dental subjects, and of the various journals, both those which have existed for some time and those of later origin, and congratulated the profession upon their flourishing condition in consideration of the troublous times. He believed that dental literature would bear a favorable comparison with the literature of other professions, but thought that the modification of a certain class of communications would contribute to the reputation of the writers and the profession. He classified the causes of defective productions as follows: "1. Imperfect preliminary education. 2. The absence of a clear perception of the fundamental principles of physiology and pathology. 3. Defective modes of investigation. 4. Too much haste in the preparation of matter for the press." He referred to the means by which such defects could be remedied, dwelt upon the necessity of clothing ideas in clear and terse language, and directed attention to the importance of associated effort, and the present encouraging position of the Association.

The report was accepted and referred to the Publication Committee.

AFTERNOON SESSION.

Called to order at four o'clock P. M. The minutes of the morning session were read and accepted. Dr. Hawes' motion was discussed at great length, and, upon a final vote, was lost.

A letter from Dr. Pease was received and read, in which he regretted his inability to be present; he stated that he would not permit professional business alone to detain him; but that matters of a very urgent character claimed his attention at home. He closed with wishing the Association a good and profitable session.

The report of the Committee on Dental Education was read by Dr. Ellis. It referred to the present advanced condition of dental science, and the consequent necessity of a more thorough system for the impartation of instruction; the establishment of colleges to meet this demand was alluded to, whose teachings, in connection with the assistance of private preceptorship, were believed to constitute the most desirable system of dental education. The duties of the college, preceptor, and student were severally examined. In conclusion, reference was made to the creditable condition of dental journalism, and the profession congratulated upon their associated efforts as eliciting valuable information and promoting sociability and fellowship.

A paper on Professional Education was read by Dr. Flagg, in which he classified professional men according to their ability and desires, forming several degrees or stages; the peculiarities of each division were analyzed, and the results of their respective efforts defined. Referred to the Committee on Publication.

A paper on "Dental Education," from Dr. Latimer, was read by Dr. Fitch, and referred for publication.

Dr. Pease, in a letter, stated that as a member of the Committee on Dental Physiology, he had made some investigations and obtained some facts which he had designed to present, but other duties prevented his embodying them in a regular report.

On motion of Dr. Ellis, Dr. Pease was requested to present the results of his examinations in the form of a paper at the next annual meeting.

Adjourned.

FOURTH DAY.

Called to order at nine o'clock. The minutes were read and approved.

A paper on "The Extraction of Teeth" was read by Dr. Ellis, in which the qualifications of an operator, the

peculiarities of the necessary instruments, the method of their employment, and the character of the after-treatment were severally considered. Referred to the Committee on Publication.

Dr. Allen read a paper upon "Irregularity," describing its various forms and specifying the individual treatment. It was a valuable paper, and contained much that was practical and profitable. Great interest was manifested during its reading, and at its close, remarks of appreciation were freely expressed.

The following resolution was offered by a letter from Dr. Hawes, which was read by Dr. Flagg:—

Resolved, That in our deliberate jndgment, the frequent and indiscriminate extraction of teeth, for trifling, temporary, and other wholly unnecessary causes, which has so long and so extensively prevailed, should not only be held perfectly inexcusable, but should be severely censured; and that an intelligent and patient remedial treatment for their restoration from disease and permanent preservation should be the first and highest aim and effort of our profession; and should also be most earnestly explained and recommended to the public. And further, that in our belief the progress of dentistry, at the present day, has revealed resources, varied and ample enough when timely used, for the preservation of almost every tooth, so that its decay and extinction shall only be simultaneous with that of the human frame itself. Adopted.

A paper from Dr. Hawes, on "Exposed Pulps and Alveolar Abscess," was read by Dr. Flagg. He lamented the great amount of malpractice, and thought from the present state of knowledge, we were able to treat successfully almost every pathological condition of the teeth. When a pulp is *exposed*, he advocates its prompt destruction and entire removal, and believed that ninety-five per cent. of such operations would prove successful; attempts for its preservation after exposure, he thought would mostly meet with failure—success being the exception rather than the rule. In excavating, he advocates leaving a small portion of decomposed

dentine, if the exposure and destructian of the pulp is feared as a consequence of its removal. In case of simple periostitis occasioned by the extirpation of a pulp and the filling of the tooth, he resorts to depletion by leeches, that alone generally proving sufficient. In benign abscess he cleanses and dresses with creosote. The remedies he employs in chronic abscess are a solution of iodine in creosote, creosote, nitrate of silver, and chlorate of potassa. Referred for publication.

Dr. Atkinson read a paper upon the "Institutes of Dental Science," in which he referred to the importance of the branch, and expressed his pleasure at the establishment of this chair in two of our dental schools; he dwelt upon the elevated character of the position and the weighty responsibilities resting upon its incumbent, who should be a man of superior attainments to creditably fulfill its requirements. He advocated fraternization to acquaint us with ourselves and with each other, and enable us to make a choice of proper and able men for such important posts. Referred for publication.

The report of the Committee on the Formation of Local Societies was presented by Dr. Taft. He stated that the object of the committee was to confer with members of the profession relative to the formation of local societies. The importance of association was considered, especially in dentistry, mingling as it does medical, mechanical and artistic skill. The influence of the National Association in stimulating the formation of local organizations was referred to, and a description given of the origin and present condition of the various societies. Referred to the Committee on Publication.

The committee to decide "whether metals expand in the act of congelation," was continued.

Dr. Palmer read an introductory paper, after which he exhibited some very superior instruments of his own manufacture, designed for the preparation and filling of fang canals. He described his method of tempering, the main object being

to prevent the penetration of the slightest color upon the point or cutting edge; this is prevented by grasping that portion of the instrument between the beaks of a pair of ordinary pliers. At the close of his remarks, the instruments and models were placed in the hands of the President as a gift to the Association. [Engravings and a description of these will be found on another page.—*Pub. Com.*]

Dr. Butler employed Dr. Palmer's method of tempering, with the exception of using two materials — a liquid and a semi-solid, into which the instrument was successively plunged. Of the composition of these substances he was ignorant, yet he was satisfied of their great virtue in producing a temper much finer than when water alone is used.

Dr. Allen exhibited the models of several cases, both before and after the operation, in which he had restored the cutting edges of incisors by building up with gold. These fillings were satisfactorily performing all the services of the original tooth substance. [For a description of these with engravings, see another page.—*Pub. Com.*]

Adjourned.

AFTERNOON SESSION.

Called to order at four o'clock. Minutes of the previous meeting read and approved.

Upon motion, Dr. Palmer's paper was referred to the Publication Committee, his donation accepted, and a vote of thanks tendered.

Dr. McQuillen moved that drawings of Dr. Palmer's models be embodied in the report. Carried.

Dr. Ellis moved that Dr. Allen's interesting models also be included in the report. Carried.

Dr. McClellan referred to the great and objectionable bulkiness of rubber work. This he has remedied by the introduction of an eighteen carat gold gauze or web, when the work may be rendered very thin without endangering its

strength. He exhibited a case so prepared, and stated that for this method he had procured a patent.

Dr. Gorges described a case in which he had restored the contour of the face by the application of simple gutta-percha to teeth mounted on a metallic plate; this is retained by forcing it into the spaces between the teeth, previously ground so as to retain it. Any bulk may be obtained, and in case repair becomes necessary, it is easily removed and repaired.

Upon motion, the Committee on Local Societies was continued.

Dr. Atkinson moved that the Publication Committee be requested to have the proceedings out by the first of October. Carried.

On motion, the donations were left in the hands of the Secretary.

Dr. Allen said that as the time of sitting was now drawing to a close, he could but express his pride and satisfaction at the manner in which the present session had been conducted, and hoped that each one would constitute himself a committee of the whole to stimulate dental energy. He thanked the Philadelphians for the bountiful hospitalities which they had extended, and should anticipate with pleasure a general reunion at Niagara Falls, on the last Tuesday of July, 1864.

Adjourned.

INDEX.

Minutes of the Association 5
Report of the Committee on Dental Pathology and Surgery, 20
Professional Education 30
Irregularities of the Teeth 36
Exposed Pulps and Alveolar Abscess 55
Dental Education 61
Report of the Committee on Local Societies 63
Extraction of Teeth 78
Report of the Committee on Dental Education 90
Dental Literature 97
Institutes of Dental Science 107
Dental Physiology 112
An Address 120
A Peculiar Case of Filling 124
Report of the Discussions upon the Papers presented at the American Dental Association 126

A LIST OF THE SOCIETIES REPRESENTED IN THE AMERICAN DENTAL ASSOCIATION.

Brooklyn Dental Association. Meets semi-monthly.
Cincinnati Dental Society. Meets semi-monthly.
Central New York Dental Association. Meets semi-annually.
Indiana State Dental Association. Meets annually.
Kentucky State Dental Association. Meets annually.
Mississippi Valley Dental Society. Meets annually.
Michigan Dental Association. Meets annually.
Mad River Dental Society. Meets semi-annually.
Northern Ohio Dental Association. Meets semi-annually.
New York Society of Dental Surgeons. Meets monthly.
Ohio Dental College Association. Meets annually.
Odontographic Society of Pennsylvania. Meets monthly.
Pennsylvania Association of Dental Surgeons. Meets monthly.
Pittsburgh Dental Association. Meets monthly.
Philadelphia Dental College.
Western Dental Society. Meets annually.
Washington City Dental Association.

THE FOLLOWING ASSOCIATIONS ARE NOT REPRESENTED.

St. Louis Dental Society. Meets monthly.
Western New York Dental Society. Meets semi-annually.
Iowa State Dental Society. Meets semi-annually.
Delaware Dental Association. Delaware.
Merrimac Valley Dental Society. Mass.
Connecticut Valley Dental Society. Mass.

These will doubtless be represented at the next meeting.

COLUMBIA UNIVERSITY LIBRARIES
0062041746